IELTS

雅思阅读真题及预测

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简　　介

管永川

无忧雅思网 www.51ielts.com 创始人，著名英语测试和教学专家，计算机及语言测试学硕士，澳洲 IDP 教育机构（雅思三大考试主办方之一）中国地区指定合作方，亚太地区雅思资讯网站排名连续 10 年第一。曾在美国、加拿大地区从事雅思、托福、SAT 等留学考试的中外交流合作，长期和雅思、托福领域顶级学校及著名教师进行合作交流、图书出版、机经编辑、预测解析等工作。到目前为止合作方包括英国使馆文化教育处、IDP、剑桥大学出版社、环球雅思学校、新航道、新东方、北外雅思等雅思官方机构和培训机构、为数百万雅思考生排忧解难，指引雅思考试的最新方向。 自 2003 年开始，每年连续推出《无忧雅思机经》《无忧托福机经》各种版本，销量及下载量累计超过 500 万册次以上。

曹书畅

毕业于北京外国语大学，随后赴澳洲取得 MBA 硕士学位，期间一并攻读教育语言学的经典著作和辅修测试学，不断探索语言学源流，深入钻研各种出国留学考试，参与雅思、托福等出国留学考试的内部测试测评。回国后在众家国内顶级学校任教，从事雅思、托福、SAT 等考试的研发和教学工作。从事教育工作长达十年之久，2011 年创造雅思阅读、听力 11 种考点串联，开拓阅读领域教学新篇章。2012 年任职北京外国语大学雅思学院，开办 8 小时雅思全日制 A+A 保分课程，学员保分成功率达到 98%，缔造业绩又一个奇迹。2013 年联合业界顶级雅思研发团队（无忧雅思网）一同推出《每周雅思预报》和《雅思机经超详细》系列资料，受到业界顶级名师的联合推荐，在广大烤鸭们中产生轰动效应。

Content 植物

雅思阅读高分策略

雅思阅读考试中取得高分并不难。

首先，要深入透彻的理解雅思阅读考试的表面形式与实质特点。

然后，有针对性地培养雅思阅读能力和解题技巧，做到阅读实力的提升和十大题型解题技巧的完美结合。

下文分述之。

一、表面形式

● 3 个部分

A 类阅读：三个部分分别为三篇长文章，每篇长度在 900 – 1000 个单词左右，学术类科普读物。

G 类阅读：第一部分通常有两篇较短的文章，阅读的是提供某种产品或服务的基本信息的广告类文章；第二部分稍复杂，阅读短信息，内容多为有关学习课程、学校介绍的信息；第三部分最难，阅读一篇篇幅较长的学术类文章。

● 40 道题

A 类和 G 类阅读考试均为 40 道题。答案要求用铅笔填在答题卡上。

● 60 分钟

A 类和 G 类阅读考试时间均为 60 分钟，紧接在雅思听力考试之后。阅读考试无额外的时间誊写答案。所以考试时答案应直接写在答题卡上。

● 10 种题型

雅思考试官方按题型形式分为 10 种题型，但针对中国考生的学习习惯特点，培训机构一般在雅思教学培训中按解题思路的不同分为下面 10 种题型分别进行讲解。

● **9 分**

雅思阅读评分标准 (A 类和 G 类)

学术类阅读		移民类阅读	
正确题数	分数	正确题数	分数
10—12	4	15—17	4
13—15	4. 5	18—19	4. 5
16—19	5	20—22	5
20—22	5. 5	23—24	5. 5
23—25	6	25—27	6
26—27	6. 5	28—29	6. 5
28—30	7	30—32	7
31—32	7. 5	33—34	7. 5
33—35	8	35—37	8
36—38	8. 5	38—39	8. 5
39—40	9	40	9

二、实质特点

● **考试目的**

A 类：Study，考查考生通过学术话题文章的阅读掌握所需信息，理解并获取知识的能力。

G 类：Survival，考查考生在英语国家中生活所必备的阅读能力。

● **文章题材**

A 类文章内容主要由选自世界各大重要媒体（相关网站如：www.nature.com; www.nationalgeographic.com; www.economist.com ）的文章改写而成。内容涉及经济、教育、科技、医学、环境、能源、地质、海洋、动植物等方面问题。

G 类文章内容与日常生活息息相关。文章来自于布告、广告、官方文件、小册子、报纸、说明书、时间表、杂志，以及学校的各种规章制度等。

文章体裁

A 类：说明文和议论文，三篇文章中必然有一篇包含详细的议论。

G 类：说明文。

● 考试特点

雅思阅读部分由剑桥大学考试委员会和澳大利亚考试中心负责试题的编写，所以阅读试题以前多以英国和澳大利亚的生活背景为主，但现在的选材以更趋于国际化。

考试文章以大众题材为主，不涉及专业性很强的文章，以免给某些专业的考生造成优势或劣势。除选材多样化以外，尽量设计多层次、多范畴信息题型，从不同角度考查考生理解把握文章的能力。

雅思阅读考试没有专门设计语法和词汇的专项题型，这是有别于其他外语考试形式的一个重要特征。相反，在一些较难的文章之后还附带有一些提示的生词表或注解（Glossary），以帮助考生理解某些关键词语和定义，从而更好点理解全文。这是因为雅思阅读考试既不是考查考生是否能理解每一个单词、每一句话的确切含义，也不是考查在某一学科的专业能力，而旨在评估考生的综合英语阅读能力。

● 重点考查技能

雅思 A 类阅读最大特点是阅读量大。三篇文章，最常见的文章长度为 900 个单词左右一篇，大部分考生在学习雅思之前很少接触此类长文章。因此，如何在 10 分钟内快速的浏览完一篇文章，把握文章结构大意，留出更多的时间做题是提高雅思阅读成绩的关键。雅思阅读还强调考生 reading with purpose 的能力，在大量的信息中找到自己想要的信息。这对考生今后对付国外大学教授布置的如山的课后阅读材料是大有裨益的。而且，我们“有幸”生活在信息时代，每个人都不缺乏信息，相反都是 information overloaded。那么雅思阅读其实培养了我们一种基本的生存能力：如何在信息的海洋中找到自己想要的部分，而不是被信息所包围，最终遭遇灭顶之灾。

所以，A 类阅读考试的考核重点是：阅读文章时能正确理解文章，把握文章主旨和结构；做题时能回原文迅速找到考点具体信息，理解文中的主要事实和某些特定的细节，根据上下文猜出某些词句大意，弄清句子间的逻辑关系，能进行

一定的判断推理。

雅思 G 类考到的题目涉及考生在英语国家必备的生存技能，即是否具备获取、理解并处理基本信息的能力。就考核技能而言，雅思 G 类阅读主要涉及抓主旨、定位细节和比较信息，较少考核推理、判断与得出结论等学术技能。

三、雅思阅读实力提升

雅思阅读实力提升阅读实力的提升绝非一朝一夕之功。单词量和对英语语法的熟练程度是各类英语阅读考试高分的基石。雅思亦是如此。通常来说，达到大学英语六级水平的考生，其单词量（5500 左右）和语法程度达到雅思阅读的基本要求，再通过对雅思阅读特点和方法的掌握，可望在短期内达到 6 分以上的水平。

● 单词

根据自己的英语基础制定出每天能够坚持的、切实可行的背单词计划。结合阅读文章记忆单词是颇为有效的方法。如脱离语言环境，孤立地背词汇，就很容易把单词的意义和正确用法遗忘或混淆。而且枯燥的单词书、字母表很容易让人疲倦和产生挫败感。在精读雅思文章的同时背单词，除了单词的收获，还能深入理解文章中的各类人文常识、趣味科普知识，从而产生每天坚持阅读、坚持背单词的兴趣和动力。另外，有效背记单词的另一个重要原则是：一定要反复多遍。背过的单词一定要定期的重复复习。

● 语法

雅思的语法掌握侧重对句子的理解，应学会从句子的主干成分主谓结构入手，对并列句、比较句、指代句、复合句和双重否定句有充分的把握，注意人称、语态在句子中的变化，并结合句子上下文，正确地掌握其要表达的意思。要逐渐培养将一个长句子读成一个相对短的句子，即长句短读的能力。读完一个长句后自己能总结归纳，提炼其陈述的要点。

● 加大阅读广度

以往在和雅思阅读 8 分以上的高分学员的交流中发现：学员们的单词量大小可能有所差异，但共同点却很明显：英语的累积阅读量大。有的是考前通读过多

种雅思阅读材料；有的是过去读过 TOEFL、GRE 和 GMAT 的各类文章，有的是因为工作的需要每天上网快速阅读英文参考文献……所以，积累和扩大自己的英语阅读量是迈向高分的必由之路。G 类考试的阅读中前两部分通常是实用性强的功能性短文，如菜单、产品说明、通知、住宿安排和广告等，非常贴近西方的实际生活，但对国内绝大多数考生而言很陌生。建议争取每天阅读一定量的原版英文报刊、书籍，如 Time、Reader's Digest 等，尤其注意其中的各类广告。而 A 类阅读则注意多阅读篇幅较长的科普文章或学术性议论文，建议每天坚持半小时以上浏览 www.nature.com、www.nationalgeographic.com、www.economist.com 、www.newscientist.com 等网站。它们的文风、常用词汇和句子结构都和雅思 A 类阅读相似。

● 提高阅读速度

雅思考试的阅读部分，无论是 A 类还是 G 类都是同时测试考生的阅读速度和理解的精确度。而如何快速的阅读完长文章，留出充足的时间回答各类题型，是考生必然面临的一个难题。要想提高阅读速度首先要改掉影响阅读速度的不良习惯。针对大多数考生的通病，提出下面四点注意事项：

1. 扩大眼睛扫描的宽度。要达到雅思阅读的速度，请注意训练自己一眼看过，至少阅读到 3 – 5 个单词

2. 阅读过程中只使用眼睛和大脑两大器官。不要用手指和笔引导阅读，不要小声读出来（使用了嘴和耳朵），不要在心中默读（能默读说明你一眼只看到一个单词）。

3. 遇到生词不用紧张，学会通过上下文猜测大意。

4. 有重点的阅读，把握文章结构和大意。

● 培养重要考核能力

有了以上基础，还要有针对性的训练和提高雅思阅读所要求的各种阅读能力。按照各种阅读能力对获得雅思高分的重要性排序，它们依次为：

把握长文章结构（Understanding framework of a passage）快速浏览长文章（Skimming）扫描特定信息（Scanning）理解复杂句子结构（Understanding complex structures）通过上下文猜测词义（Understanding meaning from context）形成概念（Forming a mental image）

雅思阅读真题词汇同意替换整理版

序号	题目单词	原文替换单词	衍生同意单词
1	scientist	expert	physicist, specialist, biologist, zoologist, chemist, researcher, professor, master, skeptics, advocate
2	revision	change, rather than, instead of, shift	correct, transformation, contrast, adjustment, turn, but, however, nevertheless, contrary
3	policy	way, philosophy organisation	rule, law, principle, guideline, decision government, department
4	explanation	explain	claim, conclusion, tell, instruct, demonstrate, declare, argue, believe, maintain, insist, emphasize, say, “”
5	reduce	decrease, drop, fall, slow	minus, decline, descend, down, cut, small, ressession, shrink, leak, downward, small
6	use	consume	apply, employ, utilize, adopt, make use of
7	irrigation	agriculture	food supply, water, canal, lake, ocean, sea, river, field, farmland, farmer, meadow
8	disuse	No	without, not, lack, impossible, improper, inappropriate, unnecessary, abandon, desert, give up, refuse, resist
9	environmental	eco-system	environment, surrounding, atmosphere, circumstance, situation, condition
10	effect	consequence	influence, impact, reflect, result, affect, conclusion, end, hence, thus, therefore, accordingly, outcome, finally, last, fruit, yield
11	financial	Finance	cost, economy, economic, bill, fee, fare, freight, money, consumption, expenditure, spend, tax, tariff, expense, duty, custom, currency, fund, invest, donation, scholarship, penny, pound, dollar, rent, deposit, value, worth。。。。$
12	technology	technology	science, skill, machine, equipment, facility, infrastructure, tool, vehicle, technician, engineer

13	relevance	Relate	connect, link, contact, associate, relationship, intimate, get touch with
14	health	Disease	fitness, well-being, well, illness, cancer, cold, sanitation
15	concern	Worry	care, matter
16	increase	superior, extend	rise, up, ascend, more, accelerate, speed up, accumulate, peak, summit, grow, climb, upward, raise, high, soar, leap
17	surprising	unexpected, predict	unbelievable, incredible, terrific, amazing, forecast, anticipate, think, plan
18	need	Demand	call for, require, request, want, desire, eager, willing…
19	standard	Criteria	example, model, size, weight, specification, line, regulation, limit, restrict, criterion…
20	research	Study	investigation, researcher
21	dental	tooth, teeth	dentist
22	development	develop, advancement	promotion, improvement, high, progress, boost
23	population movement	migration	immigrant, shift, change
24	method	technique	approach, measure, way, technology, technical, strategy, skill, tool
25	early	prehistoric	long long ago, before, previous, former, 过去式, 1890s, 1980s, ancestor, precede, date back, precursor, primitive, original, aboriginal, archaeology
26	further	Next	then, advance, additional…
27	question	?	problem, issue, doubt, difficulty, suspicious, suspect
28	cause	Reason	lead to, result in/from, attribute, abscirbe, due to, owing to, because, contribute, why, thanks to, hence, thus, therefore, accordingly, consequence
29	relationship	Relate	relavant, relative, friendship, fellowship

30	different	but, however	unlike, conversely, yet, nevertheless, nonetheless
31	between	Two	2, as well as, and, on the one hand…on the other hand, either…or…, both…and…, the former…the latter, couple with
32	measure	calibrate	test, scale, calculate, figure out
33	domestic water	drinking water	shower, WC, toilet, wash, irrigate
34	purify	clean, removal	clear, tidy, anti-bacteria, sanitation, remove, get rid of
35	farming industry	Farm	agriculture, peasant, farmer, farmland, field, pest, animal, herd, cultivate, plant
36	stage	first, second, third, then	finally, next, level, rank, grade, class…
37	term	be referred to as	definition, technical word, vocabulary, be defined as, be known as, be called, be termed as, expression
38	hidden	not appear	disappear, invisible, vanish, hide, underlie, escape, secret, buried, concealed, obscure, cover
39	chemical	pesticide，fertilizer	dirty, science, pollution, chemistry, DDT, poison
40	city	urban	downtown, metropolitan
41	positive	phenomenal	encouraging, promote, energetic, excellent, extraordinary, attractive, great, gorgeous, prominent, supportive, favorable
42	military	battle, battlefield	soldier, navy, army, air force, force, war, arm, gun, marine,
43	electronically	computer	electricity, current, battery, laptop, mobile phone, television, telephone, e-mail, internet
44	difficulty	barrier	not deal with, not handle, not tackle, shortcoming, disadvantage, mistake, drawback, ban, problem
45	first	coin	start, primary, elementary, primitive, original, initial, begin, find, discover, create, invention, build, construct, compose

46	product	produce	vegetable, fruit, thing, article, item, object, physical, ware, goods…
47	abroad		oversea, foreign
48	local		native, our, domestic, own, themselves, civil
49	deliver	send	transport, traffic, sea, freight, airmail, EMS, post, import, export, convey
50	biological	gene, instinct	creature, biology, biologist, animal, tiger, snake, evolution
51	explanation	tell	explain, say, argue, claim, state, believe, maintain, insist, persist, doubt
52	experiment	lab	laboratory, subject, microscope, researcher
53	pupil	pupil	primary school, elementary school, education
54	identity	actor	identify, identification, student, son
55	statistical	数字	data, number, figure, census, demography, numeration
56	expect	predict, want	guess, think, estimate, anticipate, forecast, foresee
57	aim	goal	target, purpose
58	again	前缀 re-	back, second
59	common	general	public, people, person, society, social, share
60	topic	subject	theme, thesis, issue
61	conversation	talk	dialogue, speech, lecture, seminar
62	identify	identity	understand, know, acquaintance, recognize, realize, consider, opinion
63	improvement	advancement	great, promotion, propel, progress, positive, excellent, advantageous, remarkable, prominent, boost
64	official	government	officer, public servant, nation, country, worker, authority
65	location	boulevard	situation, place, sit, locate, situate, position, address, lane, road, street, avenue
66	actor	superstar	actress, player, personate, impersonate

67	pessimistic	worse	bad, negative, failure, fail, hopeless, harmful, inferior, tough
68	instantly	rapid	quickly, fast, speedy, immediately, promptly
69	well known	famous, notoriety	celebrated, noted, renowned, famed, illustrious
70	view	outlook	opinion, perspective, viewpoint, stand, sentiment, thought
71	bring	confer	supply, present, offer, give, apply
72	exchange	together	change, transform, communicate, associate, colleague, cooperation, collaborate
73	expertise	scientist	expert, master, researcher, engineer, physicist
74	different sports	a number of sports swimming, squash, golfer	a variety of sports, basketball, valleyball, football
75	visual imaging	camera, photo	see, view, picture, image, photograph, drawing, diagram
76	narrow	focus	specify, concentrate, shrink, decline, decrease
77	reproduce	copy, replicate	produce again, duplicate
78	optimum	best	greatest, first, leading
79	achievement	score	performance, accomplishment, skill, ability
80	event	championship	match, game, competition, olympic game, contest, sport activity, action
81	detailed	explicit	specific, elaborate, minute
82	potential	be liable to	may be, be able to, likely, possible, probable, be inclined to
83	difference	distinguish	distinction, different, differ, differentiate, unlike, contrast, contrary, adverse, discrimination, odds
84	the same as	like	equivalent, equal, parallel, similar, as, coincide…with, coincidence, resemble
85	entirely	totally	completely, utterly, undoubtedly, absolutely, whole

86	field	domain	kingdom, province, realm, scopes, sign, terrain
87	quickly	fast	swift, speedy, prompt, immediate, sudden
88	unpredictable	fluctuate	rebound, uncertain
89	big	massive	adequate, abundant, substantial, large quantity of, a great deal of, plenty of, accumulative, many, much, excessive
90	delieve	send	transmit, pass, hand over, submit, give
91	restrict	slow down	limit, confine, constrain, curb, minimal, few, smaller
92	pressing	urgent	clamant, emergent, exigent, hurry-up, imperative
93	such as	like	for example, for instance, as an illustration of, to illustrate, case
94	elderly people	old people	senior citizen, old folks, the elderly
95	sophisticated	developed	advanced, complicated, complex, intricate, perplexing, tangle some
96	fair	equal, equitable	disinterested, evenhanded, impartial, square, equality
97	target	goal	aim, cause, end, object, objective
98	vehicle	car, truck	automobile, motor vehicles, transportation means, bus, minibus, carriage, truck, van, traffic
99	unwanted material	waste	rubbish, trash, garbage, junk, litter, muck, sweeping
100	lifestyle	way	mode, method, manner, fashion

A Wonder Plant-Bamboo

The wonder plant with an uncertain future: more than a billion people rely on bamboo for either their shelter or income, while many endangered species depend on it for their survival. Despite its apparent abundance, a new report says that species of bamboo may be under serious threat.

A Every year, during the rainy season, the mountain gorillas of Central Africa migrate to the foothills (山麓) and lower slopes of the Virunga Mountains to graze on bamboo. For the 650 0r so that remain in the wild, it's a vital food source. Although there are at almost 150 types of plant, as well as various insects and other invertebrates, bamboo accounts for up t0 90 percent of their diet at this time of year. Without it, says Ian Redmond, chairman of the Ape Alliance, their chances of survival would be reduced significantly. Gorillas aren't the only locals keen on bamboo. For the people who live close to the Virungas, it's a valuable and versatile raw material used for building houses and making household items such as mats and baskets. But in the past 100 years or so, resources have come under increasing pressure as populations have exploded and large areas of bamboo forest have been cleared to make way for farms and commercial plantations.

B Sadly, this isn't an isolated story. All over the world, the ranges of many bamboo species appear to be shrinking, endangering the people and animals that depend upon them. But despite bamboo's importance, we know surprisingly little about it. A recent report published by the UN Environment Programme (UNEP) and the Inter-national Network for Bamboo and Rattan (INBAR) has revealed just how profound is our ignorance of global bamboo resources, particularly in relation to conservation. There are almost l,600 recognized species of bamboo, but the report concentrated on the l,200 or so woody varieties distinguished by the strong stems, or culms (茎), that most people associate with this versatile plant. Of these, only 38 'priority species' identified for their commercial value have been the subject of any real

scientific research, and this has focused mostly on matters relating to their viability as a commodity. This problem isn't confined to bamboo. Compared to the work carried out on animals, the science of assessing the conservation status of plants is still in its infancy. "People have only started looking hard at this during the past 10-15 years, and only now are they getting a handle on how to go about it systematically," says Dr. Valerie Kapos, one of the report's authors and a senior adviser in forest ecology and conservation to the UNEP.

C Bamboo is a type of grass. It comes in a wide variety of forms, ranging in height from 30 centimetres to more than 40 metres. It is also the world's fastest-growing woody plant; some species can grow more than a metre in a day. Bamboo's ecological rote extends beyond providing food and habitat for animals. Bamboo tends to grow in stands made up of groups of individual plants that grow from root systems known as rhizomes (根茎). Its extensive rhizome systems, which tie in the top layers of the soil, are crucial in preventing soil erosion. And there is growing evidence that bamboo plays an important part in determining forest structure and dynamics. "Bamboo's pattern of mass flowering and mass death leaves behind large areas of dry biomass that attract wildfire," says Kapos. "When these burn, they create patches of open ground within the forest far bigger than would be left by a fallen tree." Patchiness helps to preserve diversity because certain plant species do better during the early stages of regeneration when there are gaps in the canopy.

D However, bamboo's most immediate significance lies in its economic value.

Modern processing techniques mean that it can be used in a variety of ways, for example, as flooring and laminates. One of the fastest growing bamboo products is paper-25 percent of paper produced in India is made from bamboo fiber, and in Brazil, 100,000 hectares of bamboo are grown for its production. Of course, bamboo's main function has always been in domestic applications, and as a locally traded commodity it's worth about $4.5billion annually. Because of its versatility, flexibility and strength (its tensile strength compares to that of some steel), it has traditionally been used in construction. Today, more than one billion people worldwide live in bamboo houses. Bamboo is often the only readily available raw material for people in many developing countries, says Chris Stapleton, a research associate at the Royal Botanic Gardens. "Bamboo can be harvested from forest areas or grown quickly elsewhere, and then converted simply without expensive machinery or facilities," he says. "In this way, it contributes substantially to poverty alleviation and wealth creation."

E Given bamboo's value in economic and ecological terms, the picture painted by the UNEP report is all the more worrying. But keen horticulturists (园艺家) will spot an apparent contradiction here. Those who've followed the recent vogue for cultivating exotic species in their gardens will point out that if it isn't kept in check, bamboo can cause real problems. "In a lot of places, the people who live with bamboo don't perceive it as being endangered in any way," says Kapos. "In fact, a lot of bamboo species are actually very invasive if they've been introduced." So why are so many species endangered? There are two separate issues here, says Ray Townsend, vice president of the British Bamboo Society and

arboretum manager at the Royal Botanic Gardens. "Some plants are threatened because they can't survive in the habitat-they aren't strong enough or there aren't enough of them, perhaps. But bamboo can take care of itself-it is strong enough to survive if left alone. What is under threat is its habitat." It is the physical disturbance that is the threat to bamboo, says Kapos. "When forest goes, it is converted into something else: there isn't anywhere for forest plants such as bamboo to grow if you create a cattle pasture."

F Around the world, bamboo species are routinely protected as part of forest eco-systems in national parks and reserves, but there is next to nothing that protects bamboo in the wild for its own sake. However, some small steps are being taken to address this situation. The UNEP-INBAR report will help conservationists to establish effective measures aimed at protecting valuable wild bamboo species. Towns end, too, sees the UNEP report as an important step forward in promoting the cause of bamboo conservation. "Until now, bamboo has been perceived as a second-class plant. When you talk about places such as the Amazon, everyone always thinks about the hardwoods. Of course these are significant, but there is a tendency to overlook the plants they are associated with, which are often bamboo species. In many ways, it is the most important plant known to man. I can't think of another plant that is used so much and is so commercially important in so many countries." He believes that the most important first step is to get scientists into the field. "We need to go out there, look at these plants and see how they survive and then use that information to conserve them for the future."

Questions 1-7

Reading Passage I has six sections A-F.

Which section contains the following information ?

Write the correct letter A-F in boxes l-7 on your answer sheet

NB You may use any letter more than once

1 Limited extent of existing research

2 Comparison of bamboo with other plant species

3 Commercial application of bamboo

4 Bamboos application in a variety of uses

5 Human activity that damaged large areas of bamboo

6 The approaches used to study bamboo

7 Bamboo helps the survival of a range of plants

Questions 8-11

Use the information in the passage to match the people (listed A-D) with opinions or deeds below. Write the appropriate letters A-d in boxes 8-11 0n your answer sheet.

NB you may use any letter more than once

A Ian Redmond
B ValerieKapos
C RayTownsend
D Chris Stapleton

8 Destroying bamboo jeopardizes to wildlife.

9 People have very confined knowledge of bamboo.

10 Some people do not think that bamboo is endangered.

11 Bamboo has loads of commercial potentials.

Questions 12-13

Answer the questions below using ***NO MORE THAN TWO WORDS*** from the passage for each answer.

Write your answers in boxes 12-13 0n your answer sheet

12 What problem does the bamboos root system prevent?

13 Which bamboo product is experiencing market expansion?

Ambergris

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

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

C Ambergris and amber are related by the fact that both wash up on beaches. Ambergris is a solid, waxy and flammable substance of a dull 2rey or blackish color, with the shades being variegated 1ike marble. It possesses a peculiar sweet，earthy odour not unlike isopropyl alcohol (异丙醇). It is now known to be a morbid secretion formed in the intestines of the sperm whale, found in the Atlantic and Pacific oceans. Being a very lightweight material, ambergris is found floating upon the sea, on the sea coast, or in the sand near the sea coast. It is met with in the Atlantic Ocean, on the coasts Of Brazil and Madagascar; also on the coast Of Africa, of the East Indies, China, Japan, and the Molucca Islands; but most of the ambergris which is brought to England

comes from the Bahama Islands. It is also sometimes found in the abdomen of whales; it is always in lumps in various shapes and sizes, weighing from 1/2 oz. to 100 or more lb. A piece which the Dutch East India Company bought from the King of Tydore weighed 182 lb. An American fisherman from Antigua found, Inside a whale, about 52 1eagues south-east from the Windward Islands, a piece of ambergris which weighed about l 30 lb, and sold for 500 sterling.

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

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

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

stinging harshness.

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

H The industries founded on ambergris resulted in the slaughter of sperm whales (抹香鲸) almost to extinction. Sperm whales were killed in two massive hunts, the Moby Dick whalers who worked mainly between 1740-1 880, and the modem whalers whose operations peaked in 1 964, when 29,255 were killed. Most recent estimates suggest a global population of about 360,000 animals down from about 1,100,000 before whaling. In the 20th century, 90% of ambergris was derived in the processing of killing sperm whales. To this day, ambergris is still the most expensive product in the whole body of sperm whale. Depending on its quality, raw ambergris fetches approximately 20 USD per gram. In the United States, possession of any part of an endangered species-including ambergris that has washed ashore-is a violation of the Endangered Species Act of 1978.

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

Questions 1-5

Classify the following statement as applying to

A Ambergris only
B Amber only
C Both amber and ambergris
D Neither amber nor ambergris

1 very expensive
2 food flavor
3 used as currency
4 referred to in a communication
5 could be seen through

Questions 6-9

Summary

Complete the Summary paragraph described below in boxes 6—9 on your answer sheet. Write the correct answer with one word.

The formation of ambergris experiences several stages. First, when sperm whale eats the hard and sharp 6 _____ of squid, its intestine will produce ambergris to facilitate the 7 _____ Then, ambergris can be 8 _____ up by sperm whale and float on the water. After months of exposure on air, it 9 _____ and the color turns dark grey or black.

Question 10-13

Do the following statements agree with the information given in the passage?

In boxes 10-13 on your sheet, write

TRUE	*if the sataement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

10 In the 20th century, most ambergris was made in the process of killing sperm whale.

11 Ambergris's cost increased recently.

12 Ambergris still remains in the perfume making.

13 Ambergris is still the most important amber odorant in perfume manufacture.

Biodiversity

A It seems biodiversity has become a buzzword beloved of politicians, conservationists, protesters and scientists alike. But what exactly is it? The Convention on Biological Diversity an international agreement to conserve and share the planet's biological riches, providing a good working definition: biodiversity comprises every form of life, from the smallest microbe to the largest animal or plant, the genes that give them their specific characteristics and the ecosystems of which they are a part.

B In October, the World Conservation Union (also known as the IUCN) published its updated Red List of Threatened Species, a roll call of 11,167 creatures facing extinction - 121 more than when the list was last published in 2000. But the new figures almost certainly underestimate the crisis. Some 1.2 million species of animal and 270,000 species of plant have been classified, but the well-being of only a fraction has been assessed. The resources are simply not available. The IUCN reports that 5714 plants are threatened, for example, but admits that only 4 percent of known plants have been assessed. And, of course, there are thousands of species that we have yet to discover. Many of these could also be facing extinction.

C It is important to develop a picture of the diversity of life on Earth now, so that comparisons can be made in the future and trends identified. But it isn't necessary to observe every single type of organism in an area to get a snapshot of the health of the ecosystem. In many habitats there are species that are particularly susceptible to shifting conditions, and these can be used as indicator species.

D In the media, it is usually large, charismatic animals such as pandas, elephants, tigers and whales that get all the attention when loss of biodiversity is discussed. However, animals or plants far lower down the food chain are often the ones vital for preserving habitats - in the process saving the skins of those more glamorous species. These are known as keystone species.

E By studying the complex feeding relationships within habitats, species can

be identified that have a particularly important impact on the environment. For example, the members of the fig family are the staple food for hundreds of different species in many different countries, so important that scientists sometimes call figs "jungle burgers". A whole range of animals, from tiny insects to birds and large mammals, feed on everything from the tree's bark and leaves to its flowers and fruits. Many fig species have very specific pollinators. There are several dozen species of fig tree in Costa Rica, and a different type of wasp has evolved to pollinate each one. Chris Lyle of the Natural History Museum in London-who is also involved in the Global Taxonomy Initiative of the Convention on Biological Diversity - points out that if fig trees are affected by global warming, pollution, disease or any other catastrophe, the loss of biodiversity will be enormous.

F Similarly, sea otters play a major role in the survival of giant kelp forests along the coasts of California and Alaska. These "marine rainforests" provide a home

for a wide range of other species. The kelp itself is the main food of purple and red sea urchins and in turn the urchins are eaten by predators, particularly sea otters. They detach an urchin from the seabed then float to the surface and lie on their backs with the urchin shell on their tummy, smashing it open with a stone before eating the contents. Urchins that are not eaten tend to spend their time in rock crevices to avoid the predators. This allows the kelp to grow and it can grow many centimetres in a day. As the forests form, bits of kelp break off and fall to the bottom to provide food for the urchins in their crevices. The sea otters thrive hunting for sea urchins in the kelp, and many other fish and invertebrates live among the fronds. The problems start when the sea otter population declines. As large predators they are vulnerable - their numbers are relatively small so disease or human hunters can wipe them out. The result is that the sea urchin population grows unchecked and they roam the sea floor eating young kelp fronds. This tends to keep the kelp very short and stops forests developing, which has a huge impact on biodiversity.

G Conversely, keystone species can also make dangerous alien species: they can wreak havoc(肆虐) if they end up in the wrong ecosystem. The cactus moth (仙人掌蛾), whose caterpillar(毛虫)is a voracious (贪婪的) eater of prickly pear (刺梨) was introduced to Australia to control the rampant cacti. It was so successful that someone thought it would be a good idea to introduce it to Caribbean islands that had the same problem. It solved the cactus menace, but unfortunately some of the moths have now reached the US mainland-borne on winds and in tourists' luggage-where they are devastating the native cactus populations of Florida.

H Organisations like the Convention on Biological Diversity work with groups such as the UN and with governments and scientists to raise awareness and fund research. A number of major international meetings - including the World Summit on Sustainable Development in Johannesburg this year - have set targets for governments around the world to slow the loss of biodiversity. And the CITES meeting in Santiago last month added several more names to its list of endangered species for which trade is controlled. Of course, these

agreements will prove of limited value if some countries refuse to implement them.

I There is cause for optimism, however. There seems to be a growing understanding of the need for sustainable agriculture and sustainable tourism to conserve biodiversity. Problems such as illegal logging are being tackled through sustainable forestry programmes, with the emphasis on minimising the use of rainforest hardwoods in the developed world and on rigorous replanting of whatever trees are harvested. CITES is playing its part by controlling trade in wood from endangered tree species. In the same way, sustainable farming techniques that minimise environmental damage and avoid monoculture.

J Action at a national level often means investing in public education and awareness. Getting people like you and me involved can be very effective. Australia and many European countries are becoming increasingly efficient at recycling much of their domestic waste, for example, preserving natural resources and reducing the use of fossil fuels. This in turn has a direct effect on biodiversity by minimising pollution, and an indirect effect by reducing the amount of greenhouse gases emitted from incinerators and landfill sites. Preserving ecosystems intact for future generations to enjoy is obviously important, but biodiversity is not some kind of optional extra. Variety may be "the spice of life", but biological variety is also our life-support system.

Questions 14-20

Do the following statements agree with the information given in Reading Passage 2?

In boxes 14-20 0n your answer sheet, write

TRUE	*if the sataement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

14 The term “biodiversity” consists of living creatures and environment that they live in.

15 There are species that have not been researched because it’s unnecessary to study all creatures.

16 It is not necessary to investigate all creatures in a certain place.

17 The press more often than not focus on animals well-known.

18 There is a successful case that cactus moth plays a positive role in the US.

19 Usage of hardwoods is forbidden in some European countries.

20 Agriculture experts advise farmers to plant single crops in the field in terms of sustainable farming.

Questions 21-26

Summary

Complete the following summary of the paragraphs of Reading Passage, using no more than two words from the Reading Passage for each answer. Write your answers in boxes 21-26 0n your answer sheet.

Because of the ignorance brought by media, people tend to neglect significant creatures called 21 _____ . Every creature has diet connections with others, such as 22 _____ , which provide a majority of foods for other species. In some states of America, decline in number of sea otters leads to the boom of 23 _____ . An impressing case is that imported 24 _____ successfully tackles the plant cacti in 25 _____ . However, the operation is needed for the government to increase their financial support in 26 _____ .

Biology of Bitterness

To many people, grapefruit is palatable only when doused in sugar. Bitter blockers like adenosine monophosphate (单磷酸盐) *could change that.*

A There is a reason why grapefruit juice is served in little glasses: Most people don't want to drink more than a few ounces at a time. Naringin (柚苷), a natural chemical compound found in grapefruit, tastes bitter. Some people like that bitterness in small doses and believe it enhances the general flavor, but others would rather avoid it altogether. So juice packagers often select grapefruit with low naringin content, even though the compound has antioxidant (抗氧化剂) properties that some nutritionists contend may help prevent cancer and arteriosclerosis.

B It is possible, however, to get the goodness of grapefruit juice without the bitter taste. I found that out by participating in a test conducted at the Linguagen Corporation, a biotechnology company in Cranbury, New Jersey. Sets of two miniature white paper cups, labeled 304 and 305, were placed before five people seated around a conference table. Each of us drank from one cup and then the other, cleansing our palates (上颚) between tastes with water and a soda cracker. Even the smallest sip of 304 had grapefruit's unmistakable bitter bite. But 305 was smoother; there was the sour taste of citrus but none of the bitterness of naringin. This juice had been treated with adenosine monophosphate, or AMP, a compound that blocks the bitterness in foods without making them less nutritious.

C Taste research is a booming business these days, with scientists delving into all five basics—sweet, bitter, sour, salty, and umami, the savory taste of protein. Bitterness is of special interest to industry because of its untapped potential in food. There are thousands of bitter-tasting compounds in nature. They defend plants by warning animals away and protect animals by letting them know when a plant may be poisonous. But the system isn't foolproof. Grapefruit and cruciferous (十字花科的) vegetables like brussels sprouts

and kale are nutritious despite—and sometimes because of—their bitter-tasting components. Over time, many people have learned to love them, at least in small doses. "Humans are the only species that enjoys bitter taste," says Charles Zuker, a neuroscientist at the University Of California School Of Medicine at San Diego. "Every other species is averse to bitter because it means bad news. But we have learned to enjoy it. We drink coffee, which is bitter, and quinine [in tonic water] too. We enjoy having that spice in our lives." Because bitterness can be pleasing in small quantities but repellent when intense, bitter blockers like AMP could make a whole range of foods, drinks, and medicines more palatable (美味可口的)—and therefore more profitable.

D People have varying capacities for tasting bitterness, and the differences appear to be genetic. About 75 percent of people are sensitive to the taste of the bitter compounds phenylthiocarbamide (苯硫脲) and 6-n-propylthiouracil (丙基硫氧嘧啶), and 25 percent are insensitive. Those who are sensitive to phenylthiocarbamide seem to be less likely than others to eat cruciferous vegetables, according to Stephen Wooding, a geneticist at the University of Utah. Some people, known as supertasters, are especially sensitive to 6-n-propylthiouracil because they have an unusually high number of taste buds. Supertasters tend to shun (避开)all kinds of bitter-tasting things, including vegetables, coffee, and dark chocolate. Perhaps as a result, they tend to be thin. They're also less fond of alcoholic drinks, which are often slightly bitter. Dewar's scotch, for instance, tastes somewhat sweet

to most people. "But a supertaster tastes no sweetness at all, only bitterness," says Valerie Duffy, an associate professor of dietetics at the University of Connecticut at Storrs.

E In one recent study, Duffy found that supertasters consume alcoholic beverages, on average, only two to three times a week, compared with five or six times for the average nontasters. Each taste bud, which looks like an onion, consists of 50 to 100 elongated cells running from the top of the bud to the bottom. At the top is a little clump of receptors that capture the taste molecules, known as tastants, in food and drink. The receptors function much like those for sight and smell. Once a bitter signal has been received, it is relayed (转播) via proteins known as G proteins. The G protein involved in the perception of bitterness, sweetness, and umami (鲜味) was identified in the early 1990s by Linguagen's founder, Robert Margolskee, at Mount Sinai School of Medicine in New York City. Known as gustducin, the protein triggers a cascade (层叠) of chemical reactions that lead to changes in ion concentrations (离子浓度) within the cell. Ultimately, this delivers a signal to the brain that registers as bitter. "The signaling system is like a bucket brigade," Margolskee says. "It goes from the G protein to other proteins."

F In 2000 Zuker and others found some 30 different kinds of genes that code for bitter-taste receptors. "We knew the number would have to be large because there is such a large universe of bitter tastants (促味剂)," Zuker says. Yet no matter which tastant enters the mouth or which receptor it attaches to, bitter always tastes the same to us. The only variation derives from its intensity and the ways in which it can be flavored by the sense of smell. "Taste cells are like a light switch," Zuker says. "They are either on or off."

G Once they figured out the taste mechanism, scientists began to think of ways to interfere with it. They tried AMP, an organic compound found in breast milk and other substances, which is created as cells break down food. AMP has no bitterness of its own, but when put in foods, Margolskee and his colleagues

discovered, it attaches to bitter-taste receptors. As effective as it is, AMP may not be able to dampen (抑制) every type of bitter taste, because it probably doesn't attach to all 30 bitter-taste receptors. So Linguagen has scaled up the hunt for other bitter blockers with a technology called high-throughput screening. Researchers start by coaxing cells in culture to activate bitter-taste receptors. Then candidate substances, culled from chemical compound libraries, are dropped onto the receptors, and scientists look for evidence of a reaction.

H In time, some taste researchers believe, compounds like AMP will help make processed foods less unhealthy. Consider, for example, that a single cup of Campbell's chicken noodle soup contains 850 milligrams of sodium chloride, or table salt—more than a third of the recommended daily allowance. The salt masks the bitterness created by the high temperatures used in the canning process, which cause sugars and amino acids to react. Part of the salt could be replaced by another salt, potassium chloride, which tends to be scarce in some people's diets. Potassium chloride has a bitter aftertaste, but that could be eliminated with a dose of AMP. Bitter blockers could also be used in place of cherry or grape flavoring to take the harshness out of children's cough syrup, and they could dampen the bitterness of antihistamines, antibiotics, certain HIV drugs, and other medications.

I A number of foodmakers have already begun to experiment with AMP in their products, and other bitter blockers are being developed by rival firms such as Senomyx in La Jolla, California. In a few years, perhaps, after food companies have taken the bitterness from canned soup and TV dinners, they can set their sights on something more useful: a bitter blocker in a bottle that any of us can sprinkle (撒) on our brussels sprouts (甘蓝) or stir into our grapefruit juice.

Questions 1-8

The reading Passage has seven paragraphs A-I.

Which paragraph contains the following information?

Write the correct letter A-I, in boxes 1-8 on your answer sheet.

1 Experiment on bitterness conducted

2 Look into the future application

3 Bitterness means different information for human and animals

4 Spread process of bitterness inside of body

5 How AMP blocks bitterness

6 Bitterness lowers unhealthy impact

7 Bitterness introduced from a fruit

8 Genetic feature determines sensitivity

Questions 9-12

Summary

Complete the following summary of the paragraphs of Reading Passage, using no more than two words from the Reading Passage for each answer. Write your answers in boxes 9-12 on your answer sheet.

The reason why grapefruit tastes bitter is because a substance called 9 _____ contained in it. However, bitterness plays a significant role for plants. It gives a signal that certain plant is 10 _____ . For human beings, different person carries various genetic ability of tasting bitterness. According to a scientist at the University of Utah,11 _____ have exceptional plenty of 12 _____ , which allows them to perceive bitter compounds.

Questions 13-14

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

Write your answers in boxes 13-14 on your answer sheet.

13 What is the main feature of AMP according to this passage?

A offset bitter flavor in food

B only exist in 304 cup

C tastes like citrus

D chemical reaction when meets biscuit

14 What is the main function of G protein?

A collecting taste molecule

B identifying different flavors

C resolving large molecules

D transmitting bitter signals

Going Bananas

A The world's favourite fruit could disappear forever in 10 years' time. The banana is among the world's oldest crops. Agricultural scientists believe that the first edible banana was discovered around ten thousand years ago. It has been at an evolutionary standstill ever since it was first propagated in the jungles of South-East Asia at the end of the last ice age. Normally the wild banana, a giant jungle herb a mass of hard seeds that make the fruit virtually inedible. But now and then, hunter-gatherers must have discovered rare mutant plants that produced seed-less, edible fruits. Geneticists now know that the vast majority of these soft-fruited plants resulted from genetic accidents that gave their cells three copies of each chromosome instead of the usual two. This imbalance prevents seeds and pollen from developing normally, rendering the mutant plants sterile. And that is why some scientists believe the world's most popular fruit could be doomed. It lacks the genetic diversity to fight off pests and diseases that are invading the banana plantations of Central America and the small-holdings of Africa and Asia alike.

B In some ways, the banana today resembles the potato before blight brought famine to Ireland a century and a half ago. But "it holds a lesson for other crops, too", says Emile Frison, top banana at the International Network for the Improvement of Banana an4 Plantain in Montpellier, France. "The state of the banana", Frison warns, "can teach a broader lesson the increasing standardisation of food crops round the world is threatening their ability to adapt and survive."

C The first Stone Age plant breeders cultivated these sterile freaks by replanting cuttings from their stems. And the descendants of those original cuttings are the bananas we still eat today. Each is a virtual clone, almost devoid of genetic diversity. And that uniformity makes it ripe for disease like no other crop on Earth. Traditional varieties of sexually reproducing crops have always had a much broader genetic base, and the genes will recombine in new arrangements in each generation. This gives them much greater flexibility in evolving

responses to disease-and far more genetic resources to draw on in the face of an attack. But that advantage is fading fast, as growers increasingly plant the same few, high-yielding varieties. Plant breeders work feverishly to maintain resistance in these standardized crops. Should these efforts falter, yields of even the most productive crop could swiftly crash. "When some pest or disease comes along, severe epidemics can occur," says Geoff Hawtin, director of the Rome-based International Plant Genetic Resources Institute.

D The banana is an excellent case in point. Until the 1950s, one variety, the Gros Michel, dominated the world's commercial banana business. Found by French botanists in Asian the 1820s, the Gros Michel was by all accounts a fine banana, richer and sweeter than today's standard banana and without the latter/s bitter aftertaste when green. But it was vulnerable to a soil fungus that produced a wilt known as Panama disease. "Once the fungus gets into the soil it remains there for many years. There is nothing farmers can do. Even chemical spraying won't get rid of it," says Rodomiro Ortiz, director of the Inter-national Institute for Tropical Agriculture in Ibadan, Nigeria. So plantation owners played a running game, abandoning infested fields and moving so "clean" land-until they ran out of clean land in the 1950s and Had to abandon the Gros Michel. Its successor, and still the reigning commercial king, is the Cavendish banana, a 19th-century British discovery from southern China. The Cavendish is resistant to Panama disease and, as a result, it literally saved the international banana industry. During the 1960s, it replaced the Gros Michel on supermarket shelves. If you buy a banana today, it is almost certainly a Cavendish. But even so, it is a minority in the world's banana crop.

E Half a billion people in Asia and Africa depend on bananas. Bananas provide the largest source of calories and are eaten daily. Its name is synonymous with food. But the day of reckoning may be coming for the Cavendish and its indigenous kin. Another fungal disease, black Sigatoka, has become a global epidemic since its first appearance in Fiji in 1963. Left to itself, black Sigatoka-which causes brown wounds on leaves and pre-mature fruit

ripening-cuts fruit yields by 50 to 70 per cent and reduces the productive lifetime of banana plants from 30 years to as little as 2 or 3. Commercial growers keep Sigatoka at bay by a massive chemical assault. Forty sprayings of fungicide a year is typical. But despite the fungicides, diseases such as black Sigatoka are getting more and more difficult to control. "As soon as you bring in a new fungicide, they develop resistance," says Frison. "One thing we can be sure of is that the Sigatoka won't lose in this battle." Poor farmers, who cannot afford chemicals, have it even worse. They can do little more than watch their plants die. "Most of the banana fields in Amazonia have already been destroyed by the disease," says Luadir Gasparotto, Brazil's leading banana pathologist with the government research agency EMBRAPA. Production is likely to fall by 70 percent as the disease spreads, he predicts. The only option will be to find a new variety.

F But how? Almost all edible varieties are susceptible to the diseases, so growers cannot simply change to a different banana. With most crops, such a threat would unleash an army of breeders, scouring the world for resistant relatives whose traits they can breed into commercial varieties. Not so with the banana. Because all edible varieties are sterile, bringing in new genetic traits to help cope with pests and diseases is nearly impossible. Nearly, but not totally. Very rarely, a sterile banana will experience a genetic accident that allows an almost normal seed to develop, giving breeders a tiny window for improvement. Breeders at the Honduran Foundation of Agricultural Research have tried to exploit this to create disease-resistant varieties. Further backcrossing with wild bananas yielded a new seedless banana resistant to both black Sigatoka and Panama disease.

G Neither Western supermarket consumers nor peasant growers like the new hybrid. Some accuse it of tasting more like an apple than a banana. Not surprisingly, the majority of plant breeders have till now turned their backs

on the banana and got to work on easier plants. And commercial banana companies are now washing their hands of the whole breeding effort, preferring to fund a search for new fungicides instead. "We supported a breeding programme for 40 years, but it wasn't able to develop an alternative to Cavendish. It was very expensive and we got nothing back," says Ronald Romero, head of research at Chiquita, one of the Big Three companies that dominate the international banana trade.

H Last year, a global consortium of scientists led by Frison announced plans to sequence the banana genome within five years. It would be the first edible fruit to be sequenced. Well, almost edible. The group will actually be sequencing inedible wild bananas from East Asia because many of these are resistant to black Sigatoka. If they can pinpoint the genes that help these wild varieties to resist black Sigatoka, the protective genes could be introduced into laboratory tissue cultures of cells from edible varieties. These could then be propagated into new, resistant plants and passed on to farmers.

I It sounds promising, but the big banana companies have, until now, refused to get involved in GM research for fear of alienating their customers. "Biotechnology is extremely Expensive and there are serious questions about consumer acceptance," says David McLaughlin, Chiquita's senior director for environmental affairs. With scant funding from the companies, the banana genome researchers are focusing on the other end of the spectrum. Even if they can identify the crucial genes, they will be a long way from developing new varieties that smallholders will find suitable and affordable. But whatever biotechnology's academic interest, it is the only hope for the banana. Without banana production worldwide will head into a tailspin. We may even see the extinction of the banana as both a lifesaver for hungry and impoverished Africans and as the most popular product on the world's supermarket shelves.

Questions 1-3

Complete the sentences below with NO MORE THAN THREE WORDS from the passage.

In boxes l-3 on your answer sheet, write

Write your answers in boxes 1-3 on your answer sheet

1 Banana was first eaten as a fruit by humans almost_____years ago.

2 Banana was first planted in_____

3 Wild banana's taste is adversely affected by its_____

Questions 4-10

Look at the following statements (Questions 4-10) and the list of people below Match each statement with the correct person, A-F.

Write the correct letter: A-F, in boxes 4-10 On your answer sheet.

List of People

A Rodomiro
B David Mclaughlin
C Emile Frison
D Ronald Romero
E Luadir Gasparotto
F Geoff Hawtin

NB You may use any letter more than once.

4 Pest invasion may seriously damage banana industry.

5 The effect of fungal infection in soil is often long-lasting.

6 A commercial manufacturer gave up on breeding bananas for disease resistant species.

7 Banana disease may develop resistance to chemical sprays.

8 A banana disease has destroyed a large number of banana plantations.

9 Consumers would not accept genetically altered crop.

10 Lessons can be learned from bananas for other crops.

Questions 11-13

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

In boxes 11-13 on your answer sheet, write

TRUE	*if the sataement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

11 Banana is the oldest known fruit.

12 Gros Michel is still being used as a commercial product.

13 Banana is a main food in some countries

LONGAEVA:Ancient Bristlecone Pine

A To understand more about the earth's history, humans have often looked to the natural environment for insight into the past. The bristlecone pine (Pinus longaeva), of the White Mountains in California , has served this purpose greater than any other species of tree on the planet. Conditions here are brutal: scant precipitation and low average temperatures mean a short growing season, only intensified by ferocious wind and mal-nutritious rocky. Nevertheless, bristlecone pines have claimed these barren slopes as their permanent home. Evolving here in this harsh environment, super-adapted and without much competition, bristlecones have earned their seat on the longevity throne by becoming the oldest living trees on the planet. Results of extensive studies on bristlecone pine stands have shown that in fact such, environmental limitations are positively associated with the attainment of great age. This intriguing phenomenon will be discussed further on.

B But exactly how old is old? Sprouted before the invention of Egyptian hieroglyphs and long before the teachings of Jesus of Nazareth, Dethuselah is the oldest bristlecone alive at roughly 4,700 years. Although specimens of this age do not represent the species' average, there are 200 trees more than 3,000 years old, and two dozen more than 4,000. Considering that these high ages are obtained in the face of such remarkable environmental adversity, the bristlecone pines have become the focus of much scientific examination over the past half century.

C Perhaps most interested in the bristlecone pine are dendochronologists, or tree-ring daters. With every strenuous year that passes in the White Mountains, each bristlecone grows and forms a new outer layer of cambium that reflects a season's particular ease or hardship. So while, growing seasons may expand or shrink, the trees carry on, their growth rings faithfully recording the bad years alongside the goods . Through examining the annual growth rings of both living and dead specimens, taking thousands of core samples, and by processes of cross-dating between trees and other qualitative records,

scientists have compiled a continuous tree-ring record that dates back to the last Ice Age between eight and ten thousand years ago. Among other linked accomplishments, this record has enhanced the dating process, helping to double-check and correct the radiocarbon-14 method to more accurately estimate the age of organic material.

D Now more than ever the importance of monitoring the bristlecone is being realized. As our global climate continues to undergo its most recent and abrupt atmospheric change, these ancient scribes continue to respond. Since, the rings of wood formed each year reveal the trees' response to climatic conditions during a particular growing seasons, in their persistence they have left us natural recordings of the past, markers of the present, and clues to the future.

E The species' name originates from the appearance of its unusual cones and needles. The bristlecone's short, pale needles are also trademarks, bunching together to form foxtail-like bundles. As is the case of most conifer needles, these specialized leaves cluster together to shelter the stomata so very little moisture is lost through them. This adaptation helps the bristlecone photosynthesize during particularly brutal months, Saving the energy of constant needle replacement and providing a stable supply of chlorophyll. For a plant trying to store so much energy, bristlecone seeds are relatively large in size. They are first reproduced when trees reach ages between thirty and seventy-five years old. Germination rates are generally high, in part because seeds require little to no initial stratification. Perhaps the most intriguing physical characteristic of a mature bristlecone, however, is its ratio of living to dead wood on harsh sites and how this relates to old age. In older trees, however, especially in individuals over 1,500 years, a strip-bark trait is

adaptive. This condition occurs as a result of cambium dieback, which erodes and thereby exposes certain areas of the bole, leaving only narrow bands of bark intact.

F The technique of cambial edge retreat has help promote old age in bristlecone pine, but that certainly is not the only reason. Most crucial to these trees' longevity is their compact size and slow rates of growth . By remaining in most cases under ten meters tall, bristlecones stay close to the limited water supply and can hence support more branches and photosynthesizing. Combined with the dry, windy, and often freezing mountain air, slow growth guarantees the bristlecones tight, fibrous rings with a high resin content and structural strength. The absence of natural disaster has also safeguarded the bristlecone's lengthy lifespan. Due to a lack of ground cover vegetation and an evenly spaced layout, bristlecone stands on the White Mountain peaks have been practically unaffected by fire. This lack of vegetation also means a lack of competition for the bristlecones.

G Bristlecone pine's restricted to numerous, rather isolated stands at higher altitudes in the southwestern United States . Stands occur from the Rocky Mountains, through the Colorado Plateau, to the western margin of the Great Basin. Within this natural range, the oldest and most widely researched stands of bristlecones occur in California's White Mountains . Even just 200 miles away from the Pacific Ocean, the White Mountains are home to one of this country's few high-elevation deserts. Located in the extreme eastern rain shadow of the Sierra Nevada , this region receives only 12.54 inches of precipitation per year and experiences temperatures between-20F and +50F .The peaks south of the Owens Valley, are higher up than they might appear from a distance. Although most summits exist somewhere around 11,000 feet, snow-capped White Mountain Peak , for which the range is named, stands at 14,246 feet above sea level. That said, to reach areas of pure bristlecone is an intense journey all to itself.

H With seemingly endless areas of wonder and interest, the bristlecone pines have become subject to much research over the past half-century. Since the

annual growth of these ancient organisms directly reflects the climatic conditions of a particular time period, bristlecones are of greatest significance to dendochronologists, or tree-ring specialists. Dating any tree is simple and can be done within reasonable accuracy just by counting out the rings made each year by the plant's natural means of growth. By carefully compiling a nearly 10,000-year-old bristlecone pine record, these patient scientists have accurately corrected the carbon-14 dating method and estimated ages of past periods of global climate change . What makes this record so special to dendochronologists, too, is that, nowhere, throughout time, is precisely the same long-term sequence of wide and narrow rings repeated, because year-to-year variations in climate are never exactly the same.

I Historically the bristlecone's remote location and gnarled wood have deterred commercial extraction, but nothing on earth will go unaffected by global warming. If temperatures rise by only 6 degrees F, which many experts say is likely this century, about two-thirds of the bristlecones' ideal habitat in the White Mountains effectively will be gone. Almost 30,000 acres of National Forest now preserves the ancient bristlecone, but paved roads, campsites, and self-guided trails have led only to more human impact. In 1966, the U.S.F.S reported over 20,000 visitors to the Ancient Bristlecone Pine Forest, a figure which could exceed 40,000 today. Over the past hundreds of thousands of years, this species has endured in one of earth's most trying environments; "they deserve our respect and reverence. As global climate change slowly alters their environment, we as humans must do our part to raise awareness and lower our impact.

Questions 1-4

The reading Passage has nine paragraphs A-L

Which paragraph contains the following information?

Write the correct letter A-I, in boxes 1-4 on your answer sheet.

1 Human activity threats bristlecone pines habitat

2 Explanations for ring of bristlecone pines

3 An accountable survey provided from the past till now

4 Survived in hostile environment

Questions 5-7

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

Write your answers in boxes 5-7on your answer sheet.

5 According to passage A, what aspect of bristlecone pines attracts author's attention?

A Brutal environment they live

B Remarkable long age

C They only live in California

D Outstanding height

6 Why do we investigate Bristlecone pines in higher altitudes of California's White Mountains?

A Because oldest ones researched in this region

B Because most bizarre ones are in this region

C Because precipitation is rich in this region

D Because sea level is comparatively high in this region

7 Why there are repeated patterns of wide and narrow rings ?

A Because sea level rises which affects tree ring

B Because tree ring pattern is completely random

C Because ancient organisms affect its growth

D Because variation of climate change is different

Questions 8-13

Summary

Complete the following summary of the paragraphs of Reading Passage, using no more than three words from the Reading Passage for each answer. Write your answers in boxes 8-13 on your answer sheet.

The bristlecone's special adaptation is benefit for photosynthesizing, and reserving the 8_____of leave replacement and providing sufficient chlorophyll. Probably because seeds do not rely on primary 9_____, Germination rate is high. Because of cambium dieback, only narrow 10_____remain complete. Due to multiple factors such as windy, cold climate and 11_____**,** bristlecones' rings have tight and solid structure full of resin. Moreover, bristlecone stands are safe from fire because of little 12_____ plants spread in this place. The summits of Owens Valley is higher than they emerge if you observe from a 13_____.

Mangroves Forests of the Tide

At the intersection of land and sea, mangrove forests support a wealth of life, from starfish to people, and may be more important to the health of the planet than we ever realized.

A Mangroves live life on the edge. With one foot on land and one in the sea, these botanical amphibians occupy a zone of desiccating heat, choking mud, and salt levels that would kill an ordinary plant within hours. Yet the forests mangroves form are among the most productive and biologically complex ecosystems on Earth. Birds roost in the canopy, shellfish attach themselves to the roots, and snakes and crocodiles come to hunt. Mangroves provide nursery grounds for fish; a food source for monkeys, deer, tree-climbing crabs, even kangaroos; and a nectar source for bats and honeybees.

B As a group, mangroves can't be defined too closely. There are some 70 species from two dozen families—among them palm, hibiscus, holly, plumbago, acanthus, legumes, and myrtle. They range from prostrate shrubs to 200-foot-high (60 meters) timber trees. Though most prolific in Southeast Asia, where they are thought to have originated, mangroves circle the globe. Most live within 30 degrees of the Equator, but a few hardy types have adapted to temperate climates, and one lives as far from the tropical sun as New Zealand. Wherever they live, they share one thing in common: They're brilliant adapters. Each mangrove has an ultrafiltration system to keep much of the salt out and a complex root system that allows it to survive in the intertidal zone. Some have snorkel-like roots called pneumatophores that stick out of the mud to help them take in air; others use prop roots or buttresses to keep their trunks upright in the soft sediments at tide's edge.

C These plants are also landbuilders par excellence. Some Aborigines in northern Australia believe one mangrove species resembles their primal ancestor, Giyapara, who walked across the mudflats and brought the tree into existence. The plants' interlocking roots stop river-borne sediments from coursing out

to sea, and their trunks and branches serve as a palisade that diminishes the erosive power of waves.

D Despite their strategic importance, mangroves are under threat worldwide. They are sacrificed for salt pans, aquaculture ponds, housing developments, roads, port facilities, hotels, golf courses, and farms. And they die from a thousand indirect cuts: oil spills, chemical pollution, sediment overload, and disruption of their sensitive water and salinity balance. Calls for mangrove conservation gained a brief but significant hearing following the 2004 Indian Ocean tsunami. Where mangrove forests were intact, they served as natural breakwaters, dissipating the energy of the waves, mitigating property damage, perhaps saving lives. Post-tsunami, the logic of allowing a country's mangrove "bioshields" to be bulldozed looked not just flawed but reprehensible. Bangladesh has not lost sight of that logic, putting a great premium on the ability of mangroves to stabilize shores and trap sediments. The vast tidal woodland they form is known as the Sundarbans——literally "beautiful forest." Today, it's the largest surviving single tract of mangroves in the world.

E Throughout the tropical world it's the same: Mangrove forests are the supermarkets, lumberyards, fuel depots, and pharmacies of the coastal poor. Yet these forests are being destroyed daily. One of the greatest threats to mangrove survival comes from shrimp farming. At first glance, shrimp might seem the perfect export for a poor country in a hot climate. Rich countries have an insatiable appetite for it (shrimp has overtaken tuna to become America's favorite seafood), and the developing world has the available land and right climate to farm it.

F A prime location for shrimp ponds, though, happens to be the shore zone occupied by mangroves, an unhappy conflict of interests that has a predictable outcome: The irresistible force of commerce trumps the all-too-removable mangrove. To compound matters, shrimp farmers typically abandon their ponds after a few crop cycles (to avoid disease outbreaks and declining

productivity) and move to new sites, destroying more mangroves as they go.

G As serious as the threat from shrimp farming is to the world's remaining mangroves, there looms a potentially more disastrous problem: rising sea levels. Standing as they do at the land's frontiers, mangroves will be the first terrestrial forests to face the encroaching tides.

H Loss of mangrove forests could prove catastrophic in ways only now becoming apparent. For more than 25 years Jin Eong Ong, a retired professor of marine and coastal studies in Penang, Malaysia, has been exploring a less obvious mangrove contribution: What role might these forests play in climate change? Ong and his colleagues have been studying the carbon budget of mangroves—the balance sheet that compares all the carbon inputs and outputs of the mangrove ecosystem—and they've found that these forests are highly effective carbon sinks. They absorb carbon dioxide, taking carbon out of circulation and reducing the amount of greenhouse gas. Mangroves may have the highest net productivity of carbon of any natural ecosystem, and as much as a third of this may be exported in the form of organic compounds to mudflats. Mangroves, it seems, are carbon factories, and their demolition robs the marine environment of a vital element.

I Ong's team has also shown that a significant portion of the carbon ends up in forest sediments, remaining sequestered there for thousands of years. Conversion of a mangrove forest to a shrimp pond changes a carbon sink into a carbon source, liberating the accumulated carbon back into the atmosphere—but 50 times faster than it was sequestered. If mangroves were to become recognized as carbon-storage assets, that could radically alter the way these forests are valued, says Ong. If carbon trading becomes a reality—that is, if forest-rich, carbon-absorbing countries are able to sell so-called emissions credits to more industrialized, carbon-emitting countries—it could, at the least, provide a stay of execution for mangroves.

Questions 1-5

Summary

Complete the following summary of the paragraphs of Reading Passage, using no more than Three words from the Reading Passage for each answer. Write your answers in boxes 1-5 on your answer sheet.

Mangroves are outstanding 1_____who are able to live life in hard environment. There are two systems——2_____ and 3_____enabling them to survive at the intersection of land and sea. Meanwhile, Mangroves have strategic importance. 4_____can be held by the roots, and the erosive power of waves can be reduced by their 5_____.

Questions 6-11

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

In boxes 6-11 on your answer sheet, write

TRUE	*if the sataement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

6 Mangroves are various and similar.

7 We can find mangroves in Singapore.

8 Mangroves had played an important role in the 2004 Indian Ocean tsunami and saved lives.

9 Bangladesh is mentioned to have spent a huge sum of money on the mangroves.

10 In order to avoid loss, shrimp farmers will cut down the amount of ponds regularly.

11 Shrimp farming will greatly influence the function of mangroves that holding the carbon.

Questions 12-13

Choose the correct letter, A-F.

Write your answers in boxes 12-13 on your answer sheet.

Which ***TWO*** of the followings are ***NOT*** mentioned to have put mangrove survival in danger?

A increasing greenhouse gas
B too much sediment
C cut by human
D shrimp export
E rising sea levels
F shrimp farming

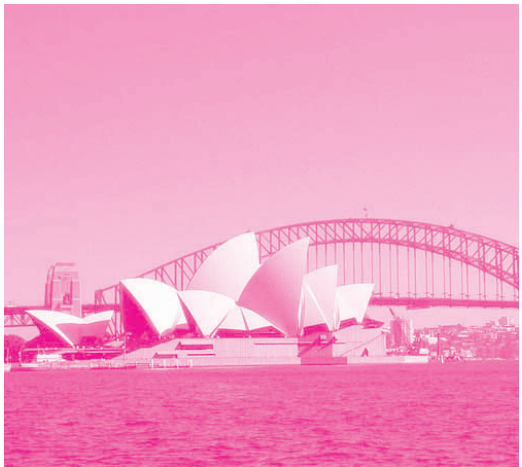
Origin of Species & Continent Formation

A The fact that there was once a Pangean supercontinent, a Panthalassa Ocean, and a Tethys Ocean, has profound implications for the evolution of multicellular life on Earth. These considerations were unknown to the scientists of the 19th century—making their scientific deductions even more remarkable. Quite independently of each other, Charles Darwin and his young contemporary Alfred Russel Wallace reached the conclusion that life had evolved by natural selection. Wallace later wrote in My Life of his own inspiration:

B Why do some species die and some live? The answer was clearly that on the whole the best fitted lived. From the effects of disease the most healthy escaped;from enemies the strongest, the swiftest or the most cunning from famine the best hunters…then it suddenly flashed on me that this self-acting process would improve the race, because in every generation the inferior would inevitably be killed off and the superior would remain, that is , the fittest would survive.

C Both Darwin's and Wallace's ideas about natural selection had been influenced by the essays of Thomas Malthus in his Principles of Population. Their conclusions, however, had been the direct result of their personal observation of animals and plants in widely separated geographic locations:Darwin from his experiences during the voyage of the Beagle, and particularly during the ship's visit to the Galapagos Islands in the East Pacific in 1835; Wallace during his years of travel in the Amazon Basin and in the Indonesia-Australian Archipelago in the 1850s.

D Darwin had been documenting his ideas on natural selection for many years when he received a paper on this selfsame subject



from Wallace, who asked for Darwin's opinion and help in getting it published. In July 1858, Charles Lyell and J. D Hooker, close friends of Darwin, pressed Darwin to present his conclusions so that he would not lose priority to and unknown naturalist. Presiding over the hastily called but now historic meeting of the Linnean Society in London, Lyell and Hooker explained to the distinguished members how "these two gentlemen" (who were absent:Wallace was abroad and Darwin chose not to attend), had "independently and unknown to one another, conceived the same very ingenious theory, "

E Both Darwin and Wallace had realized that the anomalous distribution of species in particular regions had profound evolutionary significance. Subsequently, Darwin spent the rest of his days in almost total seclusion thinking and writing mainly about the origin of species. In contrast, Wallace applied himself to the science of biogeography, the study of the pattern and distribution of species, and its significance, resulting in the publication of a massive two-volume work the Geographical Distribution of Animals in 1876.

F Wallace was a gentle and modest man, but also persistent and quietly courageous. He spent years working in the most arduous possible climates and terrains, particularly in the Malay archipelago, he made patient and detailed zoological observations and collected huge number of specimens for museums and collectors-which is how he made a living. One result of his work was the conclusion that there is a distinct faunal boundary, called "Wallace's line, "between an Asian realm of animals in Java, Borneo and the Philipiones and an Australian realm in New Guinea and Australia. In essence this boundary posed a difficult question: How on Earth did plants and animals with a clear affinity to the Northern Hemisphere meet with their Southern Hemispheric counterparts along such a distinct Malaysian demarcation zone? Wallace was uncertain about demarcation on one particular island-Celebes, a curiously shaped place that is midway between the two groups. Initially he assigned its flora-fauna to the Australian side of the line, but later he transferred it to the

Asian side. Today we know the reason for his dilemma. 200MYA East and West Celebes were islands with their own natural history lying on opposite sides of the Tethys Ocean. They did not collide until about 15 MYA. The answer to the main question is that Wallace's Line categorizes Laurasia-derived flora-fauna (the Asian) and Gondwana-derived flora-fauna (the Australian), fauna that had evolved on opposing shares of the Tethys. The closure of the Tethys Ocean today is manifested by the ongoing collision of Australia/New Guinea with Indochina/Indonesia and the continuing closure of the Mediterranean Sea—a remnant of the Western Tethys Ocean.

G In his origin of continents and oceans, Wegener quoted at length from Wallace's Geographical Distribution of Animals. According to Wegener's reading, Wallace had identified three clear divisions of Australian animals, which supported his own theory of continental displacement. Wallace had shown that animals long established in southwestern Australia had an affinity with animals in South Africa, Madagascar, India, and Ceylon, but did not have an affinity with those in Asia. Wallace also showed that Australian marsupials

and monotremes are clearly related to those in South America, the Moluccas, and various Pacific islands, and that none are found in neighboring Indonesia. From this and related data, Wegener concluded that the then broadly accepted "landbridge" theory could not account for this distribution of animals and that only his theory of continental drift could explain it.

H The theory that Wegener dismissed in preference to his own proposed that plants and animals had once migrated across now-submerged intercontinental landbridges. In 1885, one of Europe' s leading geologists, Eduard Suess, theorized that as the rigid Earth cools, its upper crust shrinks and wrinkles like the withering skin of an aging apple. He suggested that the planet's seas and oceans now fill the wrinkles between once-contiguous plateaus.

I Today, we know that we live on a dynamic Earth with shifting, colliding and separating tectonic plates, not a "withering skin", and the main debate in the field of biogeography has shifted. The discussion now concerns " dispersalism" versus "vicarianism: unrestricted radiation of species on the one hand and the development of barriers to migration on the other. Dispersion is a short-term phenomenon—the daily or seasonal migration of species and their radiation to the limits of their natural environment on an extensive and continuous landmass. Vicarian evolution, however, depends upon the separation and isolation of a variety of species within the confines of natural barriers in the form of islands, lakes, or shallow seas—topographical features that take a long time to develop.

Questions 1-5

Use the information in the passage to match the people (listed A-E) with opinions or deeds below. Write the appropriate letters A-E in boxes 1-5 on your answer sheet.

NB you may use any letter more than once

A	Suess
B	Wallace
C	Darwin and Wallace
D	Wegener
E	Lyell and Hooker

1 Persuade Darwin to publish his scientific findings

2 Depicted physical feature of earth's crust.

3 Introduced continental drift theory.

4 Published works about wildlife distribution in different region.

5 Evolution of species is based on selection by nature.

Questions 6-8

The reading Passage has nine paragraphs A-I.

Which paragraph contains the following information?

Write the correct letter A-I, in boxes 6-8 on your answer sheet.

6 Best adaptable animal survived on the planet.

7 Boundary called Wallace's line found between Asia and Australia.

8 Animal relevance exists between Australia and Africa.

Questions 9-13

Summary

Complete the following summary of the paragraphs of Reading Passage, using no more than words from the Reading Passage for each answer. Write your answers in boxes 9-13 on your answer sheet.

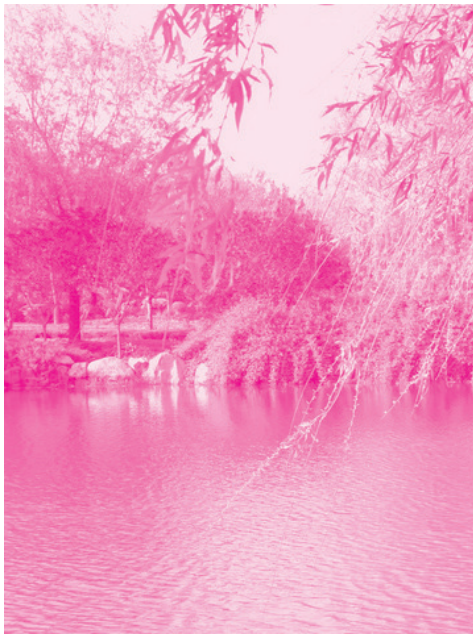
Wegener found that continental drift instead of "land bridge" theory could explain strange species' distribution phenomenon. In his theory, vegetation and wildlife 9_____ intercontinentally. However, Eduard Suess compared the wrinkle of crust to 10_____of an old apple. Now it is well known that we are living on a constant mobile 11_____instead of what Suess described. Hot spot in biogeography are switched to concerns between two terms: " 12_____"and "13_____"

Researcher on the Tree Crown

A The forest canopy—the term given to the aggregated crowns of trees in a forest—is thought to host up to 40 per cent of all species, of which ten percent could be unique to the forest roof. "We're dealing with the richest, least known, most threatened habitat on Earth," says Andrew Mitchell, the executive director of the Global Canopy Programme (GCP), a collection of groups undertaking research into this lofty world. "The problem with our understanding of forests is that nearly all the information we have has been gleaned from just two metres above the soil, and yet we're dealing with trees that grow to heights of 60 metres, or in the case of the tallest redwood 112 metres. It's like doctors trying to treat humans by only looking at their feet."

B Tropical rainforest comprises the richest of ecosystems, rivalled only by coral reel for its diversity and complex interrelationships. And a great deal of that diversity lives up in the canopy—an estimated 70-90 percent of life in the rainforest exists in the trees; one in ten of all vascular plants are canopy dwellers; and about 20-25 per cent of all invertebrates（无脊椎动物）are thought to be unique to the canopy.

C The first Briton to actually get into the canopy may have been Sir Francis Drake who, in 1573, gained his first glimpse of the Pacific Ocean from a tall tree in Darien, Panama. However, the first serious effort to reach and study the canopy didn't begin until 1929. The Oxford University Expedition to British Guiana, led by Major RWG Hingston, still ended up requiring the help of locals when it came to building an observation platform. It was a successful expedition all the same, despite the colony's acting governor getting stuck high up on a winched seat during a visit. In terms of canopy access, the French have proved themselves to be



excellent innovators, taking things further with the development of 'lighter-than-air platforms'—balloons and related equipment, to you and me. Francis Halle; from the Laboratoire de Botanique Tropicale at Montpellier University took to a balloon in the mid-1980s in order to approach the canopy from above. His work in French Guiana was inspired by the use in Gabon of a tethered helium (氦气) balloon by Marcel and Annette Hladick. Halle went one further by using a small, purpose-built airship—a cigar-shaped balloon with propellers to aid manoeuvrability (机动性. "We suddenly had a mobile system that could move around the treetops; there was no other means of doing this," says Mitchell.

D From this, two balloon-dependent features have developed: the radeau or raft, and the luge or sledge. The raft is a 'floating' platform, employed by French academics Dany Cleyet-Marrel and Laurent Pyot and is essentially an island in the treetops. Made of kevlar mesh netting and edged with inflated neoprene tubes, it rests on top of the canopy, allowing sampling (mostly of plants and insects) to take place at the edges of the platform, and can stay in position for several days. The luge, on the other hand, is an inflated hexagon (充气六边形) similar to a traditional balloon basket but with a hole in the bottom covered with Kevlar mesh (橡胶网). Such techniques aren't without their problems, however. "Balloons can cover larger areas, especially for collection purposes, but they are extremely expensive- Jibe raft alone cost 122,000 [euro] (86,000 [pounds sterling]) in 2001, not very effective because you can only reach the tops of the trees, and are highly dependent on the weather, " says Dr Wilfried Morawetz, director of systematic botany at the University of Leipzig. "Balloons can usually only be used in the early morning for two to four hours. Last time, we could only fly three times during a whole week." Given these factors, it comes as no surprise that operations involving these balloons numbered just six between 1986

and 2001.

E The next major innovation came from Alan Smith, who worked at the Smithsonian Tropical Research Institute in Panama. Smith had the idea of using a static crane to get into the treetops. Un-tethered balloons may allow widely distributed sites to be sampled, but cranes allow scientists to study an area of at least a hectare from soil to canopy throughout the year, year after year. "Cranes beat any other access modes. They are cheap, reliable and fast. In two minutes I can reach any point in our forest, which is essential for comparative measurements across species," says Professor Christian Korner of the University of Basel. Korner is using a static crane in a unique carbon dioxide-enrichment experiment in Switzerland, in an attempt to discover how forests might respond to the global increase in atmospheric carbon dioxide For reasons of convenience, cranes are generally situated close to cities or a research centre. Leipzig University has a crane not far from the town, the location allowing scientists to study the effect of city pollutants on forests. In order to increase the amount of canopy a crane can access, some have been mounted on short rail tracks. In 1995, Dr Wilfried Morawetz was the first to use this technique, installing a crane on 150 metres of track in Venezuelan rainforest. "In my opinion, cranes should be the core of canopy research in the future," he says.

F It appears that the rest of the scientific community has now come around to Mitchell's way of thinking. "I think most scientists thought him mad to consider such a complex field station at first," says internationally respected 'canopist' Meg Lowman, the executive director of the Marie Selby Botanical Gardens. "However, we've all come to realize that a combination of methods, a long-term approach to ecological studies and a collaborative approach are the absolute best ways to advance canopy science. A permanent canopy field station would allow that to happen." With a dedicated group of canopy scientists working together and a wide range of tools available for them to get into the treetops, we're now finally on our way towards a true understanding of the least-known terrestrial habitat.

Questions 14-18

The reading Passage has seven paragraphs A-F.

Which paragraph contains the following information? Write the correct letter A-F, in boxes 14-18 on your answer sheet.

14 The ecological significance for canopy study.

15 the first academic research attempt mentioned to get to the top canopy.

16 the overview idea of forest canopy and the problem of understanding the forests.

17 a recognition for a long term effect and cooperation.

18 an innovation accessing to treetop which proved to be an ultimate solution till now.

Questions 19-22

Complete the following summary of the paragraphs of Reading Passage,
using no more than two words from the Reading Passage for each answer.

Write your answers in boxes 19-22 on your answer sheet.

Scientists keep trying new methods to access to the canopy of the treetop. Though early attempt succeeded in building an observation platform yet the help of the 19 _____ was imperative: Further innovators made by the French who built a platform with equipments by using 20 _____ . Later, the 'floating' platform of 21 _____ is serving as an island in the treetops. Then finally, there came the next major breakthrough in Panama. Scientist applied 22 _____ to access to the treetops, which are proved to be the centre of canopy research in today and in the future.

Questions 23-27

Use the information in the passage to match the people (listed A-F) with opinions or deeds below. *Write the appropriate letters A-F in boxes 23-26 on your answer sheet.*
NB you may use any letter more than once

A Sir Francis Drake
B Wilfried Morawetz
C Dany Cleyet-Marrel
D Francis Halle
E Christian Korner
F Alan Smith

23 Scientist whose work was inspired by the method used by other researchers.

24 Scientist who made a claim that balloon could only be used in a limited frequency or time.

25 Scientist who initiated a successful access mode which is cheap and stable.

26 Scientist who had committed canopy-crane experiment for a specific scientific project.

27 Scientist who initiated the use of crane on the short rail tracks.

Seed Hunting

A With quarter of the world's plants set to vanish within the next 50 years, Dough Alexander reports on the scientists working against the clock the preserve the Earth's botanical heritage. They travel the four comers of the globe, scouring jungles, forests and savannas. But they're not looking for ancient artefacts, lost treasure or undiscovered tombs. Just pods. It may lack the romantic allure of archaeology, or the whiff of danger that accompanies going after big game, but seed hunting is an increasingly serious business. Some seek seeds for profit-hunters in the employ of biotechnology firms, pharmaceutical companies and private corporations on the lookout for species that will yield the drugs or crops of the future. Others collect to conserve, working to halt the sad slide into extinction facing so many plant species.

B Among the pioneers of this botanical treasure hunt was John Tradescant, an English royal gardener who brought back plants and seeds from his journeys abroad in the early 1600s. Later, the English botanist Sir Joseph Banks-who was the first director of the Royal Botanic Gardens at Kew and travelled with Captain James Cook on his voyages near the end of the 18th century-was so driven to expand his collections that he sent botanists around the world at his own expense.

C Those heady days of exploration and discovery may be over, but they have been replaced by a pressing need to preserve our natural history for the future. This modern mission drives hunters such as Dr Michiel van Slageren, a good-natured Dutchman who often sports a wide-brimmed hat in the field-he could easily be mistaken for the cinematic hero Indiana Jones. He and three other seed hunters work at the Millennium Seed Bank, an 80 million [pounds sterling] international conservation project that aims to protect the world's most endangered wild plant species.

D The group's headquarters are in a modern glass-and-concrete structure on a 200-hectare Estate at Wakehurst Place in the West Sussex countryside. Within its underground vaults are 260 million dried seeds from 122 countries,

all stored at-20 Celsius to survive for centuries. Among the 5,100 species represented are virtually all of Britain's 1,400 native seed-bearing plants, the most complete such collection of any country's flora.

E Overseen by the Royal botanic gardens, the Millennium Seed Bank is the world's largest wild-plant depository. It aims to collect 24,000 species by 2010. The reason is simple: thanks to humanity's efforts, an estimated 25 percent of the world's plants are on the verge of extinction and may vanish within 50 years. We're currently responsible for habitat destruction on an unprecedented scale, and during the past 400 years, plant species extinction rates have been about 70 times greater than those indicated by the geological record as being 'normal'. Experts predict that during the next 50 years a further one billion hectares of wilderness will be converted to farmland in developing countries alone.

F The implications of this loss are enormous. Besides providing staple food crops, plants are a source of many machines and the principal supply of fuel and building materials in many parts of the world. They also protect soil and help regulate the climate. Yet, across the globe, plant species are being driven to extinction before their potential benefits are discovered.

G The world Conservation Union has listed 5,714 threatened species which is sure to be much higher. In the UK alone, 300 wild plant species are classified as endangered. The Millennium Seed Bank aims to ensure that even if a plant becomes extinct in the wild, it won't be lost forever. Stored seeds can be used the help restore damaged or destroyed environment or in scientific research to find new benefits for society-in medicine, agriculture or local industry-

that would otherwise be lost.

H Seed banks are an insurance policy to protect the world's plant heritage for the future, explained by Dr Paul Smith, another Kew seed hunter. "Seed conservation techniques were originally developed by farmers," he says. "Storage is the basis what we do, conserving seeds until you can use them-just as in farming." Smith says there's no reason why any plant species should become extinct, given today's technology. But he admits that the biggest challenge is finding, naming and categorising all the world's plants. And someone has to gather these seeds before it's too late. "There aren't a lot of people out there doing this," he says." The key is to know the flora from a particular area, and that knowledge takes years to acquire."

I There are about 1,470 seed banks scattered around the globe, with a combined total of 5.4 million samples, of which perhaps two million are distinct non-duplicates. Most preserve genetic material for agriculture use in order to ensure crop diversity; others aim to conserve wild species, although only 15 percent of all banked plants are wild.

J Many seed banks are themselves under threat due to a lack of funds. Last year, Imperial College, London, examined crop collections from 151 countries and found that while the number of plant samples had increased in two thirds of the countries, budget had been cut in a quarter and remained static in another 35 percent. The UN's Food and Agriculture Organization and the Consultative Group on International Agricultural Research has since set up the Global Conservation Trust, which aims to raise $260 million to protect seed banks in perpetuity.

Question 14-19

Do the following statements agree with the information given in Reading Passage 2?
In boxes 14-19 on your answer sheet, write

14 The purpose of collecting seeds now is different from the past.

15 The millennium seed bank is the earliest seed bank.

16 A major reason for plant species extinction is farmland expansion.

17 The approach that scientists apply to reserve seeds is similar to that used by farmers.

18 Development of technology is the only hope to save plant species.

19 The works of seed conservation are often limited by financial problems.

Question 20-24

Summary

Complete the following summary of the paragraphs of Reading Passage, using no more than three words from the Reading Passage for each answer. Write your answers in boxes 20-24 on your answer sheet.

Some people collect seeds for the purpose of protecting certain species from 20_____; others collect seeds for their ability to produce 21_____. They are called seed hunters. The 22_____of them included both gardeners and botanists, such as 23_____who financially supported collectors out of his own pockets. The seeds collected are usually stored in seed banks, one of which is the famous millennium seed bank, where seeds are all stored in the 24_____at a low temperature.

Question 25-26

Choose the correct letter, A-E.

Write your answers in boxes 25-26 on your answer sheet.

Which ***TWO*** of the followings are provided by plants to the human?

A food

B fuels

C clothes

D energy

E commercial products

The "Extinct" Grass in Britain

A It's Britain's dodo. Called interrupted brome (雀麦草) because of its gappy seed-head, this unprepossessing grass was found nowhere else in the world. Sharp-eyed Victorian botanists were the first to notice it, and by the 1920s the odd-looking grass had been found across much of southern England. Yet its decline was just as dramatic. By 1972 it had vanished from its last toehold-two hay fields at Pampisford, near Cambridge. Even the seeds stored at the Cambridge University Botanic Garden as an insurance policy were dead, having been mistakenly kept at room temperature. Botanists mourned: a unique living entity was gone forever.

B Yet reports of its demise proved premature. Interrupted brome (雀麦草) has come back from the dead, and not through any fancy genetic engineering. Thanks to one green-fingered botanist, interrupted brome is alive and well and living as a pot plant. Britain's dodo is about to become a phoenix, as conservationists set about relaunching its career in the wild.

C At first, Philip Smith was unaware that the scrawny pots of grass on his bench were all that remained of a uniquely British species. But when news of the "extinction" of Bromus interrupt us finally reached him, he decided to astonish his colleagues. He seized his opportunity at a meeting of the Botanical Society of the British Isles in Manchester in 1979, where he was booked to talk about his research on the evolution of the brome grasses. It was sad, he said, that interrupted brome had become extinct, as there were so many interesting questions botanists could have investigated. Then he whipped out two enormous pots of it. The extinct grass was very much alive.

D It turned out that Smith had collected seeds from the brome's last refuge at Pampisford in 1963, shortly before the species disappeared from the wild altogether. Ever since then, Smith had grown the grass on, year after year. So in the end the hapless grass survived not through some high-powered conservation scheme or fancy genetic manipulation, but simply because one man was interested in it. As Smith points out, interrupted brome isn't

particularly attractive and has no commercial value. But to a plant taxonomist, that's not what makes a plant interesting.

E The brome's fixture, at least in cultivation, now seems assured. Seeds from Smith's plants have been securely stored in the state-of-the-art Millennium Seed Bank at Wakehurst Place in Sussex. And living plants thrive at the botanic gardens at Kew, Edinburgh and Cambridge. This year, "bulking up" is under way to make sure there are plenty of plants in all the gardens, and sackfuls of seeds are being stockpiled at strategic sites throughout the country.

F The brome's relaunch into the British countryside is next on the agenda. English Nature has included interrupted brome in its Species Recovery Programme, and it is on track to be reintroduced into the agricultural landscape, if friendly farmers can be found. Alas, the grass is neither pretty nor use&l--in fact, it is undeniably a weed, and a weed of a crop that nobody grows these days, at that. The brome was probably never common enough to irritate farmers, but no one would value it today for its productivity or its nutritious qualities. As a grass, it leaves agriculturalists cold.

G So where did it come from? Smith's research into the taxonomy (分类学)of the brome grasses suggests that B. Interrupt us almost certainly mutated from another weedy grass, soft brome, B: hordeaceus. So close is the relationship that interrupted brome was originally deemed to be a mere variety of soft brome by the great Victorian taxonomist Professor Hackel. But in 1895, George Claridge Druce, a 45-year-old Oxford pharmacist with a shop on the High Street, decided that it deserved species status, and convinced the botanical world. Druce was by then well on his way to fame as an Oxford don, mayor of the city, and a fellow of the Royal Society. A poor boy from Northamptonshire and a self-educated man, Druce became the leading field botanist of his generation. When Druce described a species, botanists took note.

H The brome's parentage may be clear, but the timing of its birth is more obscure. A clue lies in its penchant (倾向) for growing as a weed in fields sown with a fodder crop—particularly nitrogen-fixing legumes such as sainfoin, lucerne or

clover. According to agricultural historian Joan Thirsk, sainfoin and its friends made their first modest appearance in Britain in the early 1600s. Seeds brought in from the Continent were sown in pastures (草场) to feed horses and other livestock. But in those early days, only a few enthusiasts—mostly gentlemen keen to pamper their best horses—took to the new crops.

I Soon, however, the urgent need to feed the Parliamentary army in three theatres of war—Scotland, England and Ireland—forced farmers to produce more bread, cheese and beer. And by 1650 the legumes were increasingly introduced into arable rotations, to serve as "green manure" to boost grain yields. A bestseller of its day, Nathaniel Fiennes's Sainfoin Improved, published in 1671, helped to spread the word. The arrival of sainfoin (红豆草), clover (三叶草) and Lucerne (苜蓿)marked a revolution in farming technology and set the scene for the spontaneous emergence of Britain's very own rogue grass.

J Although the credit for the "discovery" of interrupted brome goes to a Miss A. M. Barnard, who collected the first specimens at Odsey, Bedfordshire, in 1849. the grass had probably lurked undetected in the English countryside for at least a hundred years. Smith thinks the botanical dodo probably evolved in the late 17th or early 18th century, once sainfoin became established. The brome's fortunes then declined dramatically over the 20th century, not least because the advent of the motor car destroyed the market for fodder crops for horses. Today, sainfoin has all but disappeared from the countryside, though you can sometimes spot its pretty pink flowers in downland nature reserves. These days, artificial fertilisers have made legume rotations redundant.

K This intimate relationship with out-of»fashion crops spells trouble for anyone keen to re-establish interrupted brome in today's countryside. Like many once-common arable weeds, such as the corncockle (麦 仙 翁),

its seeds cannot survive long in the soil. Each spring, the brome relied on farmers to resow its seeds; in the days before weedkillers (除 草 剂)and sophisticated seed sieves, an ample supply would have contaminated stocks of crop seed. But fragile seeds are not the brome's only problem: this species is also reluctant to release its seeds as they ripen. Show it a ploughed field today and this grass will struggle to survive, says Smith. It will be difficult to establish in today's "improved" agricultural landscape, inhabited by notoriously vigorous competitors.

L Interrupted brome's reluctance to spread under its own steam could have advantages, however. Any farmer willing to foster this unique contribution to the world's flora can rest assured that the grass will never become an invasive pest. Restoring interrupted brome to its rightful home could bring positive benefits too, once this quirky grass wins recognition as a unique national monument. British farmers made it possible for interrupted brome to evolve in the first place. Let the grass grow once again in its "natural" habitat, say the conservationists, and it could become a badge of honour for a new breed of eco-friendly farmer.

Questions 1-7

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

In boxes 1-7 on your answer sheet, write

TRUE	*if the sataement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

1 The name of interrupted brome comes form the unprepossessing grass disappeared from places in the world for a period.

2 Interrupted brome became extinct because there are no seeds in a lab area at Pampisford.

3 Philip Smith comes from University of Cambridge.

4 English nature will operate to recover interrupted brome on the success of survival in Kew.

5 The Interrupted brome Seeds were brought into Britain exactly the years on demand for fodder crop feeding horses and other livestock.

6 Interrupted Brome grow poorly in some modern agricultural with other plants thrived.

7 Media publicity plays a significant role to make interrupted brome continue to exist.

Questions 8-13

Use the information in the passage to match the people (listed A-F) with opinions or deeds below. Write the appropriate letters A-F in boxes 8-13 on your answer sheet.

A George Claridge Druce
B Nathaniel Fiennes
C Professor Hackel
D A. M. Barnard
E Philip Smith
F Joan Thirsk

Choose the people who

8 saved the British unique plants
9 identified the interrupted brome as just a common brome
10 gave an independent taxonomy place to interrupted brome
11 discovered and picked the first sample of interrupted brome
12 recorded the first 'show up' of some nitrogen-fixing plants in Britain
13 helped the spreading of interrupted brome

The Perfume Hunters

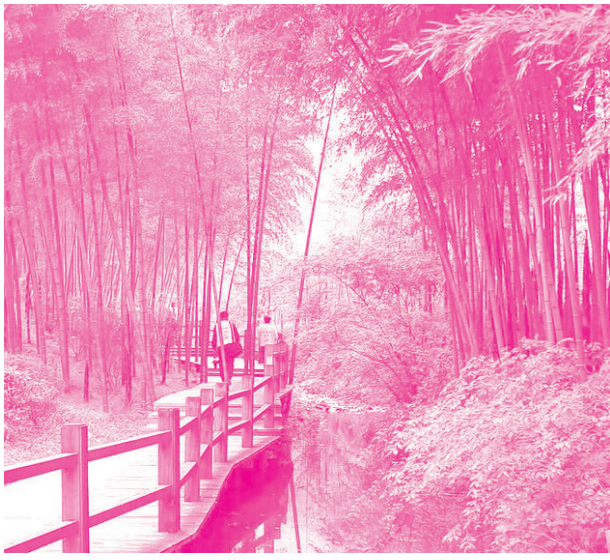
A Ever since the unguentari (古罗马时期玻璃器皿) plied their trade in ancient Rome, perfumers have had to keep abreast of changing fashions. These days they have several thousand ingredients to choose from when creating new scents, but there is always a demand for new combinations. The bigger the "palette" of smells, the better the perfumer's chance of creating something new and fashionable. Even with everyday products such as shampoo and soap, consumers are becoming increasingly fussy. Cheap, synthetic smells are out. Fresh, natural smells are in. And many of today's fragrances have to survive tougher treatment than ever before, resisting the destructive power of bleach or a high temperature wash cycle. Chemists can now create new smells from synthetic molecules, but nature has been in the business far longer. Plants produce countless fragrant chemicals. Many are intended to attract pollinators. Others are produced for quite different purposes. The fragrant resins that ooze from wounds in a tree, for example, defend it against infection.

B The island of Madagascar (马达加斯加) is an evolutionary hot spot; 85% of its plants are unique, making it an ideal source for novel fragrances. Last October, Quest International, a company that develops fragrances for everything from the most delicate perfumes to cleaning products, sent an expedition to Madagascar in pursuit of some of nature's most novel fragrances. With some simple technology, borrowed from the pollution monitoring industry, and a fair amount of ingenuity, the perfume hunters bagged 20 promising new aromas in the Madagascan rainforest. Each day the team set out from their "hotel"—a wooden hut lit by kerosene lamps, and trailed up and down paths and animal tracks, exploring the thick vegetation up to 10 meters on either side of the trail. Some smells came from obvious places, often big showy flowers within easy reach. Others were harder to pin down. "Often it was the very small flowers that were much more interesting," says Clery. After the luxuriance (肥沃) of the rainforest, the little-known island of Nosy Hara was a stark, dry place—geologically and biologically very different from the

mainland. “Apart from two beaches, the rest of the island is impenetrable, except by hacking through the bush,” says Clery. One of the biggest prizes here was a sweet-smelling sap weeping from the gnarled branches of some ancient shrubby trees in the parched interior. So far no one has been able to identify the plant.

C With most flowers or fruits, the hunters used a technique originally designed to trap and identify air pollutants. The technique itself is relatively simple. A grass bell jar or flask is fitted over the flower. The fragrance molecules(分子) are trapped in this “headspace” and can be extracted by pumping the air out over a series of filter which absorb different types of volatile molecules. Back home in the laboratory, the molecules are flushed out of the filters and injected into a gas chromatograph for analysis. If it is impossible to attach the headspace gear, hunters fix an absorbent probe close to the source of the smell. The probe looks something like a hypodermic syringe, except that the “needle” is made of silicone rubber which soaks up molecules from the air. After a few hours, the hunters retract the rubber needle and seal the tube, keeping the odour molecules inside until they can be injected into the gas chromatograph in the laboratory.

D Some of the most promising fragrances were those given off by resins(树脂) that oozed from the bark (树皮) of trees. Resins are the source of many traditional perfumes, including frankincense and myrrh (乳香和没药). The most exciting resin came from a Calophyllum (胡桐) tree, which produces a strongly scented medicinal oil. The sap of this Calophyllum smelt rich and aromatic, a little like church incense. But it also smelt of something the fragrance industry has learnt to live without,



castoreum (海狸香), a substance extracted from the musk glands of beavers and once a key ingredient in many perfumes. The company does not use animal products any longer, but it was wonderful to find a tree with an animal smell.

E The group also set out from the island to capture the smell of coral reefs. Odors that conjure up sunkissed seas are highly sought after by the perfume industry. "From the ocean, the only thing we have is seaweed, and that has a dark and heavy aroma. We hope to find something unique among the corals," says Dir. The challenge for the hunters was to extract a smell from water rather than air. This was an opportunity to try Clery's new "aquaspace" apparatus(小装置)--a set of filters that work underwater. On Nosy Hara, jars were fixed over knobs of coral about 2 meters down and water pumped out over the absorbent filters. So what does coral smell like? "It's a bit like lobster and crab," says Clery. The team's task now is to recreate the best of their captured smells. First they must identify the molecules that make up each fragrance. Some ingredients may be quite common chemicals. But some may be completely novel, or they may be too complex or expensive to make in the lab. The challenge then is to conjure up the fragrances with more readily available materials. "We can avoid the need to import plants from the rainforest by creating the smell with a different set of chemicals from those in the original material," says Clery. "If we get it right, you can sniff the sample and it will transport you straight back to the moment you smelt it in the rainforest."

Questions 14-18

The reading passage has seven paragraphs, A—E

Choose the correct heading, for paragraphs A—E from the list below.

Write the correct number, I-VIII, in boxes 14—18 on your answer sheet.

List of Headings

i. Natural scent remains though artificial odours rises

ii. Traditional aromas are not in fashion.

iii. Madagascar: the best spot for finding surviving plants

iv. Design of a simple yet ingenious device

v. A substitute for substance extracted from animal was found

vi. Exploration in Madagascar chasing new fragrances.

vii. One company's great success in market.

viii. the new challenges and tasks

14 Paragraph A

15 Paragraph B

16 Paragraph C

17 Paragraph D

18 Paragraph E

Questions 19-23

Do the following statements agree with the information given in Reading Passage 2?

In boxes 19-23 on your answer sheet, write

TRUE	*if the sataement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

19 Manufactures can choose to use synthetic odours for the perfume nowadays.

20 Madagascar is chosen to be a place for hunting plants which are rare in other parts of the world.

21 Capturing the smell is one of the most important things for creating new aromas.

22 The technique the hunters used to trap fragrance molecules is totally out of their ingenuity.

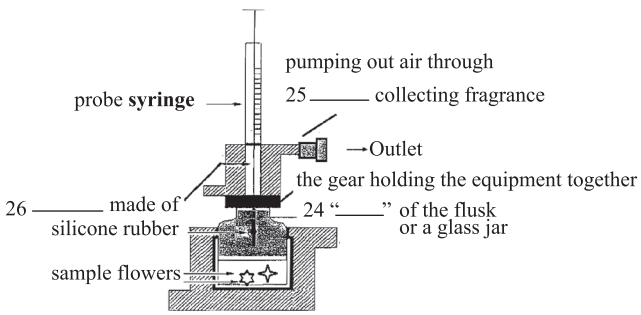
23 Most customers prefer the perfume made of substance extracted from the musk glands of animals.

Questions 24-26

Filling the blanks and answer the questions below with only one word.

A simple device used to trap molecules

A simple device used to trap molecules



Water Treatment 2: Reed Bed

A Nowadays subsurface flow wetlands are a common alternative in Europe for the treatment of wastewater in rural areas. Mainly in the last 10 to 12 years there has been a significant growth in the number and size of the systems in use. Compared to common treatment facilities, wetlands are lower in cost investment, lesser to maintain, and are ideal for densely populated rural or suburban areas rather than urban areas.

B The Common Reed has the ability to transfer oxygen from its leaves, down through its stem and rhizomes, and out via its root system. As a result of this action, a very high population of micro-organisms occurs in the root system, with zones of aerobic, anoxic, and anaerobic conditions. Therefore with the waste water moving very slowly and carefully through the mass of Reed roots, this liquid can be successfully treated.

C A straightforward definition of a reed bed is if you have dirty water in your pool or water, which is heavily polluted, Reed Beds will be planted to make the water clean again. This is good for ecology and living organisms and fish in the water. Reed Beds have a wide range of qualities and are acceptable for cleaning everything from secondary to tertiary treatment of mild domestic effluent, to rural waste and even heavy industrial contaminants. The reason why they're so effective is often because within the bed's root sector, natural biological, physical and chemical processes interact with one another to degrade or remove a good range of pollutants. Reed beds can be built in a number of variants, but mainly they are of the horizontal flow or vertical (down) flow configuration where water flows through the beds horizontally or vertically.

HORIZONTAL FLOW REED BED SYSTEMS

D Horizontal-flow wetlands may be of two types: free-water surface-flow (FWF) or sub-surface water-flow (SSF). In the former the effluent flows freely above the sand/gravel bed in which the reeds etc. are planted; in the latter effluent

passes through the sand/gravel bed. In FWF-type wetlands, effluent is treated by plant stems, leaves and rhizomes. Such FWF wetlands are densely planted and typically have water-depths of less than 0.4m. However, dense planting can limit oxygen diffusion into the water. These systems work particularly well for low strength effluents or effluents that have undergone some form of pretreatment and play an invaluable role in tertiary treatment and the polishing of effluents. The horizontal reed flow system uses a long reed bed, where the liquid slowly flows horizontally through. The length of the reed bed is about 100 meters. The downside of the horizontal reed beds is that they use up lots of land space and they do take quite a long time to produce clean water.

VERTICAL FLOW REED BED SYSTEMS

E A vertical flow reed bed is a sealed, gravel filled trench with reeds growing in it (see the picture below). The common reed oxygenates the water, which helps to create the right environment for colonies of bacteria to break down unwanted organic matter and pollutants. The reeds also make the bed attractive to wildlife.

How a vertical flow reed bed works?

F In vertical flow (downflow) reed beds, the wastewater is applied on top of the reed bed, flows down through a rhizome zone with sludge as substrate, then the root zone with sand as substrate and followed by a layer of gravel for drainage, and is collected in an under drainage system of large stones. The effluent flows onto the surface of the bed and percolates slowly through the different layers into an outlet pipe, which leads to a horizontal flow bed and is cleaned by millions of bacteria, algae, fungi, and microorganisms that digest the waste, including sewage. There is no standing water so there should be no unpleasant

smells.

G Vertical flow reed bed systems are much more effective than horizontal flow reed-beds not only in reducing biochemical oxygen demanded (BOD) and suspended solids (SS) levels but also in reducing ammonia levels and eliminating smells. Usually considerably smaller than horizontal flow beds, but they are capable of handling much stronger effluents which contain heavily polluted matters and have a longer lifetime value. A vertical Reed bed system works more efficiently than a horizontal reed bed system, but it requires more management, and its reed beds are often operated for a few days then rested, so several beds and a distribution system are needed.

H There are several advantages of Reed Bed Systems over traditional forms of water treatment: first, they have low construction and running costs; second, they are easy management; third, they have an excellent reduction of biochemical oxygen demand and suspended solids; last, they have a potential for efficient removal of a wide range of pollutants.

I Reed beds are natural habitats found in floodplains, waterlogged depressions and estuaries. The natural bed systems are a biologically proved, an environmentally friendly and visually unobtrusive way of treating wastewater, and have the extra virtue of frequently been better than mechanical wastewater treatment systems. In the medium to long term reed bed systems are, in most cases, more cost effective in installment than any other wastewater treatment. They are robust and require little maintenance. They are naturally environmentally sound protecting groundwater, dams, creeks, rivers and estuaries.

Questions 14-16

Do the following statements agree with the information given in Reading Passage 2?

In boxes 14-16 on your answer sheet, write

TRUE	*if the sataement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

14 The Reed bed system is a conventional method for water treatment in urban area.

15 In the reed roots, there's a series of process that help breakdown the pollutants.

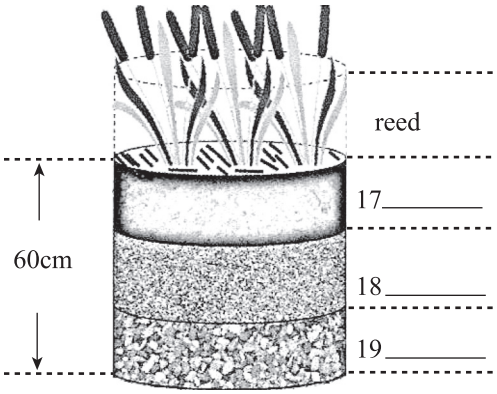
16 Escherichia coli is the most difficult bacteria to be dismissed.

Questions 17-19

Complete the diagram below.

Choose NO MORE THAN THREE WORDS AND/OR A NUMBER from the passage for each answer.

Downflow Reed Bed System



Questions 20-24

Use the information in the passage to match the advantages and disadvantages of the two systems: horizontal flow system and down-flow system (listed A-H) below.Write the appropriate letters A-H in boxes 20-24 on your answer sheet.

20_____is the advantage of the down-flow system. However, 21_____and 22_____are the disadvantages of the down-flow system 23_____and 24_____ are the two benefits of the horizontal flow system However it's less effective and efficient.

A It can deal with a more seriously polluted effluent.

B It has more beds than the other.

C It needs less control and doesn't need to be taken care of all the time.

D It requires a lot of guidance.

E It can't work all the time because the pool needs time to rest and recover after a certain period.

F It's a lot more complicated to build the system.

G The system is easy to be built.

H It consumes less water.

Questions 25-26

Choose two correct letters, from the following A, B, C, D or E.

Write your answers in boxes 25-26 on your answer sheet.

What are the two benefits of natural bed systems when compared to the conventional systems?

A Operation does not require electricity or fuel supply.

B They're visually good and environmental friendly.

C No mechanical systems are involved.

D They're easily to be built and cost less.

E They do not break down.

When the Tulip Bubble Burst

Tulips are spring-blooming perennials that grow from bulbs. Depending on the species, tulip plants can grow as short as 4 inches (10cm) or as high as 28 inches (71cm). The tulip's large flowers usually bloom on scapes or sub-scapose stems that lack bracts. Most tulips produce only one flower per stem, but a few species bear multiple flowers on their scapes (e.g. Tulipa turkestanica). The showy, generally cup or star-shaped tulip flower has three petals and three sepals, which are often termed tepals because they are nearly identical. These six tepals are often marked on the interior surface near the bases with darker colorings. Tulip flowers come in a wide variety of colors, except pure blue (several tulips with "blue" in the name have a faint violet hue).

A Long before anyone ever heard of Qualcomm, CMGI, Cisco Systems, or the other high-tech stocks that have soared during the current bull market, there was Semper Augustus. Both more prosaic and more sublime (崇高的) than any stock or bond, it was a tulip of extraordinary beauty, its midnight-blue petals topped by a band of pure white and accented with crimson flares. To denizens of 17th century Holland, little was as desirable.

B Around 1624, the Amsterdam man who owned the only dozen specimens was offered 3,000 guilders (荷兰盾) for one bulb. While there's no accurate way to render that in today's greenbacks, the sum was roughly equal to the annual income of a wealthy merchant. (A few years later, Rembrandt received about half that amount for painting The Night Watch.) Yet the bulb's owner, whose name is now lost to history, nixed the offer.

C Who was crazier, the tulip lover who refused to sell for a small fortune or the one who was willing to splurge. That's a question that springs to mind after reading Tulip mania: The Story of the World's Most Coveted Flower and the Extraordinary Passions. It aroused by British journalist Mike Dash. In recent years, as investors have intentionally forgotten everything they learned in Investing 101 in order to load up on unproved, unprofitable dot-com issues, tulip mania (狂 热) has been invoked frequently. In this concise, artfully written

account, Dash tells the real history behind the buzzword (流星鱼) and in doing so, offers a cautionary tale for our times.

D The Dutch were not the first to go gaga over the tulip. Long before the first tulip bloomed in Europe-Bavaria, it tums out, in 1559-the flower had enchanted the Persians and bewitched the rulers of the Ottoman Empire. It was in Holland, however, that the passion for tulips found its most fertile ground, for reasons that had little to do with horticulture.

E Holland in the early 17th century was embarking on its Golden Age. Resources that had just a few years earlier gone toward fighting for independence from Spain now flowed into commerce. Amsterdam merchants were at the center of the lucrative East Indies trade, where a single voyage could yield profits of 400%. They displayed their success by erecting grand estates surrounded by flower gardens. The Dutch population seemed torn by two contradictory impulses: a horror of living beyond one's means and the love of a long shot.

F Enter the tulip. "It is impossible to comprehend the tulip mania without understanding just how different tulips were from every other flower known to horticulturists in the 17th century," says Dash. The colors they exhibited were more intense and more concentrated than those of ordinary plants." Despite the outlandish (奇异的) prices commanded by rare bulbs, ordinary tulips were sold by the pound. Around 1630, however, a new type of tulip fancier appeared, lured by tales of fat profits. These "florists," or professional tulip traders, sought out flower lovers and speculators alike. But if the supply of tulip buyers grew quickly, the supply of bulbs did not. The tulip was a conspirator (阴谋者) in the supply squeeze : It takes seven years to grow one from seed. And while bulbs can produce two or three clones, or "offsets," annually, the mother bulb only lasts a few years.

G Bulb prices rose steadily throughout the 1630s, as ever more speculators (投机者) wedged (锲入) into the market. Weavers and farmers mortgaged whatever they could to raise cash to begin trading. In 1633, a farmhouse in Hoorn changed hands for three rare bulbs. By 1636 any tulip-even bulbs recently considered garbage-could be sold off, often for hundreds of guilders. A futures market for bulbs existed, and tulip traders could be found conducting their business in hundreds of Dutch taverns. Tulip mania reached its peak during the winter of 1636-1637, when some bulbs were changing hands ten times in a day. The zenith came early that winter, at an auction to benefit seven orphans whose only asset was 70 fine tulips left by their father. One, a rare Violetten Admirael vanned Enkhuizen bulb that was about to split in two, sold for 5,200 guilders, the all-time record. All told, the flowers brought in nearly 53,000 guilders.

H Soon after, the tulip market crashed utterly, spectacularly. It began in Haarlem, at a routine bulb auction when, for the first time, the greater fool refused to show up and pay. Within days, the panic had spread across the country. Despite the efforts of traders to prop up demand, the market for tulips evaporated. Flowers that had commanded 5,000 guilders a few weeks before now fetched one-hundredth that amount. Tulip mania is not without flaws. Dash dwells too long on the tulip's migration from Asia to Holland. But he does a service with this illuminating, accessible account of incredible financial folly.

I Tulip mania differed in one crucial aspect from the dot-com craze that grips our attention today: Even at its height, the Amsterdam Stock Exchange, well-established in 1630, wouldn't touch tulips. "The speculation in tulip bulbs always existed at the margins of Dutch economic life," Dash writes. After the market crashed, a compromise was brokered that let most traders settle their debts for a fraction of their liability. The overall fallout on the Dutch economy was negligible. Will we say the same when Wall Street's current obsession finally runs its course?

Questions 14-18

The reading Passage has seven paragraphs A-I

Which paragraph contains the following information?

Write the correct letter A-I, in boxes 14-18 on your answer sheet

14 Difference between tulip and high-tech shares

15 Spread of tulip before 17th century

16 Indication of money offered for rare bulb in 17th century

17 Tulip was treated as money in Holland

18 Comparison made between tulip and other plants

Questions 19-23

Do the following statements agree with the information given in Reading Passage 2?

In boxes 19-23 on your answer sheet, write

TRUE	*if the sataement agrees with the information*
FALSE	*if the statement contradicts the information*
NOT GIVEN	*if there is no information on this*

19 In 1624, all the tulip collection belonged to a man in Amsterdam.

20 Tulip was first planted in Holland according to this passage.

21 Popularity of Tulip in Holland was much higher than any other countries in 17th century.

22 Holland was the most wealthy country in the world in 17th century.

23 From 1630, Amsterdam Stock Exchange started to regulate Tulips exchange market.

Questions 24-27

Summary

Complete the following summary of the paragraphs of Reading Passage, using no more than two words from the Reading Passage for each answer.

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

Dutch concentrated on gaining independence by 24 _____ against Spain in the early 17th century, consequently spare resources entered the area of 25 _____ . Prosperous traders demonstrated their status by building 26 _____ in surroundings. Attracted by the success of profit on tulip, traders kept looking for 27 _____ and speculator for sale.

雅思阅读分类词汇

常见花卉

azalea 杜鹃花
begonia 秋海棠
Brazil 巴西木
cactus 仙人掌
camellia 山茶花
carnation 麝香石竹（康乃馨）
Chinese enkianthus 灯笼花
Chinese flowering crab-apple 海棠花
chrysanthemum 菊花
dahlia 大丽花
daisy 雏菊
datura 曼陀罗
epiphyllum 昙花
fringed iris 蝴蝶花
fuchsia 倒挂金钟
gardenia 栀子
India canna 美人蕉
jasmine 茉莉
lilac 丁香
lily 百合
mangnolia 木兰花
mangnolia 玉兰花
morning glory 牵牛 (喇叭花)
narcissus 水仙花
oleander 夹竹桃
orchid 兰花
pansy 三色堇
peony 牡丹
peony 芍药
phalaenopsis 蝶兰
rose 玫瑰
rose 月季
setose asparagus 文竹
touch-me-not (balsam) 凤仙花
tulip 郁金香
violet, stock violet 紫罗兰
water hyacinth 凤眼

环境问题

conservation 保护，保存
environmentalist = conservationist
acid 酸； 酸的
alkali 碱；
carbon 碳 （C）vs. charcoal （ 炭 ）
carbon dioxide, carbon monoxide
fume exhaust fumes vs. smoke, fog, smog
petroleum 石 油 petrol (BE) = gasoline/ gas (AE)
ozone 臭氧 (o + zone)ozone layer
ooze 渗出 渗出物
radiation 辐射 ultraviolet (UV) radiation~ radioactive
greenhouse 温室 greenhouse effect/gases

solar 太阳的
phenomenon 现象
catastrophe = disaster, cataclysm
deterioration 恶化
extinction 灭绝
species endangered species
drought 干旱
recurrent 反复发生的 re + (oc)cur + rent
vs. concurrent
inundate 淹没
embankment 筑堤 (em + bank + ment)
sediment 沉积（物）= deposit
delta 三角洲 the Pearl River Delta
alluvial 冲积的
desertification 沙漠化 desert vs. dessert
dust-storm 沙尘暴
barren 贫瘠的，不育的，无效的
attributable 归因于 be attributable to…
deforestation 滥砍滥伐（森林）
log 原木，日志 伐木 vs. logo
vegetation 植物，植被 vs. vegetable,
vegetarian
habitat 栖息地
ecosystem 生态系统
viability
demographic 人口统计的
interdependence
counterbalance 使平衡，弥补
mechanism 机理，机制
precipitation 陡降，降水
circulation 流通，循环
typhoon, tornado, hurricane
meteorology 气象（学）
volcano 火山
eruption 喷发 volcanic eruption
granite 花岗岩
imminent = impending vs. eminent
Celsius 摄氏的
Fahrenheit 华氏的
latitude 纬度 longitude, altitude
tropical (the) tropics tropical/torrid zone,
temperate zone, frigid zone
glacier 冰川
dump 倾倒，倾销
contaminate 弄脏
recycle 回收再利用
irreversible 不可逆的 (= irrevocable)
reclaim 开垦，改造 à reclamation
contentious 有争议的
opt 选择 n
prioritize 优先考虑

生物、生理

molecule 分子
amino acids（氨基酸）
protein 蛋白质
enzyme 酶 (proteins that are produced
by cells and act as catalysts in specific
biochemical reactions)
catalyst 催化剂
chlorophyll 叶绿素“chloro-”：

photosynthesis 光合作用 (photo + synthesis)photosynthetic
botany 植物学 botanist, botanical
flora 植物群
fauna 动物群
bacterium bacteria (pl.) 细菌
fungus fungi (pl.) 真菌
algae alga (pl.) 海藻
herb
carnation 康乃馨
fade 凋谢，褪色
organism 机体，组织
arthropod 节肢动物 vs. anthropoid
reptile 爬行动物
amphibian 两栖动物
mammal 哺乳动物
primate 灵长目动物
evolution 进化
anthropoid 类人猿（“anthrop”: human-kind) anthropology, philanthropy v.s. ape, gorilla, chimpanzee
gene 基因 DNA (deoxyribonucleic acid)
genetics 遗传学 genetical
helix 螺旋，螺旋壮物… analyze every single gene within the double helix of humanity’s DNA
identical 同一的
mutation 突变 mutable, immutable, mutant
predator 捕食者
embryo 胚胎
roe 鱼子 caviar 鱼子酱
tadpole 蝌蚪 frog, toad
caterpillar 毛毛虫 (cater + pillar)
grasshopper 蚱蜢，蝗虫 (= locust)
cricket 蟋蟀；板球
butterfly vs. moth
pollen 花粉 传粉 pollination
hive 蜂房
larva larvae (pl.) 幼虫 vs. lava
pupa 蛹
penguin 企鹅 vs. dolphin (海豚)
raccoon 浣熊 vs. kangaroo (袋鼠)
hibernate 冬眠 (=hole up)
torpid 麻木的，蛰伏的 vs. torpedo (鱼雷)
cerebral （大）脑的
hemisphere 半球 (hemi + sphere)
cortex 脑皮层
migraine 偏头疼
somatic 躯体的
limb 四肢 upper/lower limb
anatomy 解剖，剖析
paralyze 使瘫痪 (=incapacitate, immobilize)
artery 动脉 vein 静脉
gland 腺体
pancreas 胰
hormone 荷尔蒙，激素
cholesterol 胆固醇
efficacy 功效 vs. efficiency, effectiveness

心理

theorem 原理，定理 v.s. theory
methodology 方法论；
physiology 生理学；
psychiatry 精神病学
correlation 相互关系
sensation 感觉，知觉；sensational
perception 感知，认知
intuition 直觉；intuitive
ESP 第六感 Extrasensory Perception
motivate 激励 motivation
incentive 激励因素
ESP 第六感 Extrasensory Perception
motivate 激励
incentive 激励因素
stimulus 刺激
disorder 紊乱，失调
dysfunction 机能障碍
dissonance 不和谐，不一致
trauma 创伤
anxiety 焦虑 = anxiousness
depression 沮丧
insomnia 失眠
phobia 恐惧 (症) à suffix: -phobia
acrophobia 恐高症
xenophobia 仇外者，惧外者
claustrophobia 幽闭恐怖症
allergy 过敏 (症)，反感 He is allergic to card playing.
propensity 倾向 *Most boys have a propensity of playing with machinery.= tendency, inclination
paranoid 偏执的 paranoia 偏执狂
workaholic 工作狂 (alcoholic)
symptom 症状
diagnosis 诊断 (n.)
electroencephalogram 脑电图
electrocardiogram (心电图)
assertive 武断的
therapy 治疗法
hypnotism 催眠术 (~ hypnotize)
prescribe 开药方 vs. subscribe, describe,
antidepressant 抗抑郁药
tranquilizer 镇静药
side-effect (+s) 副作用
immune 免疫的，免除的
rehabilitation 复原，康复
relapse 旧病复发，故态复萌 vs. elapse 流逝（子在川上曰：逝者如斯夫，不舍昼夜！）
chronic 慢性的
adulthood 成人期
puberty 青春发动期
adolescence 青春期 (the time of life between puberty and adulthood)
emotional 情绪的
affective 情感的
sane 神智健全的 insane
superstition 迷信
telepathy 传心术，通灵术
apathy 无感情，无兴趣，冷漠 (=

indifference)
pathology 病理学，病理，病变
delusion 迷惑，欺瞒 vs. illusion
disorientation 迷失 (dis + orientation)~ disoriented
pervert 使反常 / 变态 反常 / 变态者
introspection 内省 vs. retrospection 回顾，反省
sublimation 纯化，升华
personality = personal characteristics
multiple personality 多重人格
innate 天赋的 in + nate (nature)= inborn, congenital
attribute 属性
trait 特征，品质 national traits 国民性 vs. traitor 叛逆者

文化

homogeneous 同质的 vs. homosexual, heterosexual
mainstream 主流，主流的
dialect 方言 (vs. accent)
discrepancy 差异
misconception 误解 (mis + concept + ion)= misunderstanding
barrier 障碍 (物) = barricade
discrimination 区别，歧视 racial/sexual discrimination
hierarchy 等级制度
heir +arch (govern) + y
insularity 岛国性质
*British industry has often been criticized for its linguistic insularity.
microcosm 小天地
nostalgia = homesickness
patriot 爱国者
compatriot 同胞，同胞的 com + patriot
vernacular 本地的，本国的 本地话，本国话 *the vernacular languages of India
immigration 移入~ immigrant, immigrate v.s. emigration (~ emigrant, emigrate)
Antipodes 澳大利亚和新西兰（非正式用法）
permeate 渗透，弥漫 *Smoke permeated the house.
entrepreneur 企业家 entrepreneurship
practitioner 开业者，从业者
celebrity 名人 luminary, VIP
proxy 代理人
anecdote 轶事
notoriety 恶名 notorious
counterpart 对应人，对等物 *Who's George Bush's counterpart in China? (Hu Jintao ^ ^)
peer 同等的人 凝视，窥视
subordinate 下级，下级的
tactics 战术，技巧 vs. strategy (战略，策略) marketing strategy v.s. selling tactics
nuance 细微差别
benchmarking 类比分析
punctual 准时的，守时的

absenteeism 旷工
flextime 弹性工作时间
harass 骚扰 harassment *Mary said that Gary had sexually harassed her.
redundancy 冗余，冗员
network redundancy
downsize 裁员 (~ lay off)
ballot 投票 (= vote)
impartial 不偏不倚的
lobby 大堂 (n.) 游说 (v.)
shortlist (BE) （供最后挑选或考虑的）候选人名单
equilibrium 平衡，均衡
questionnaire 调查表，问卷
quantitative 定量的 vs. qualitative
contingency 偶然性，偶然事件
incur 招致 incur debts/hatred/danger vs. occur, concur, recur
ethical 伦理的，符合伦理的
dubious 疑惑的，可疑的 *People were dubious about the result.
manifestation 显示，证明 manifest
subtitle 字幕，副标题 subsidiary, submarine, subway (BE: underground, tube), suburb(~ downtown, uptown, outskirts)
dubbing 配音录制
vogue 时尚 = chic
bizarre 奇异的 vs. weird (怪异的)
mediocre 平庸的
dietitian 饮食学家
connoisseur 行家，鉴赏家

教育

accommodation (膳宿) 供应 = room and board
lodging 寄宿 (处)
lease 出租 “for lease”，“to let” v.s. rent
tenant 房客，佃户
landlord 房东 landlady 房东太太 tenant 租客
housemate，roommate，dormmate，schoolmate, classmate
dormitory 寝室 dorm
au pair 为换取房间、住处、及学习某家语言的机会而为该家做家务的年轻外国人
reciprocal 相互的，互惠的
hostel 宿舍，客栈
youth hostel 青年旅馆
real estate 房地产
vicinity = neighborhood
flat 平的，瘪的 flat tire 公寓 = apartment vs. condo, studio
bond = deposit
linen 亚麻的 亚麻织品，床单 = bed linen
utensil 器皿
stationery 文具 vs. stationary 固定的
laundry 洗衣，洗衣店

cafeteria 自助餐厅 = canteen
cater 满足 (需要)
aerobics 有氧健身操 “aero”: air
badminton 羽毛球 (运动)
baseball 棒球 baseball bat
squash 壁球 (运动)
amateur vs. professional
gathering 聚会 v.s. meeting, reunion
excursion 远足 = outing, expedition
commonwealth 共和国，联邦
Commonwealth 英联邦
tertiary 第三的
post-secondary postgraduate, postdoctoral, post-sale, postwar
illiterate 文盲 不识字的 literacy
discipline 学科，纪律 v.s. subject
terminology 术语
faculty （大学的）系、科，全部教员
dean (大学) 教务长
curriculum 课程 extracurricular 课外的
syllabus 课程提纲
calendar 日历，日程 schedule, agenda, timetable
compulsory 强制的，必修的 elective 选修的
examiner vs. examinee
recruit 招生，招募 recruitment= enroll
prestige 声望，威信 prestigious
esteem 尊敬 n. & v.
aptitude 智力 SAT: School Aptitude Test
matriculation 录取入学
vocation 职 业 = calling, occupation, career
abbreviation 缩略 (词) abridge 缩短，删节
transferable (学分等) 可转换的
scholarship 奖学金 = fellowship
tutorial 辅 导 (课) tutor = lecturer, instructor
pedagogue 教员，学究 pedagogy 教育学，教学法
lexicography 词典编撰
assignment 任务，(课外) 作业
dissertation 论文 (= thesis)
credential 证明，文凭 credentials
alumni 校友 (男) vs. alumnae
overestimate 高估 vs. underestimate
decipher 解码，解释 = decode
caliber 才干

科技

ubiquitous 普遍存在的 = omnipresent omniscient, omnipotent
versatile (人) 多才多艺的，(物) 通用的
alchemy 炼金术
transmute 变形，变质
arduous 艰巨的 =strenuous
pitfall 陷阱，未预见之困难
metallurgy 冶金
alloy 合金

aluminum = aluminium (BE) calcium, uranium, radium, copper, brass, bronze
electrode 电极
distill 蒸馏 distilled water
quartz 石英
phosphorus 磷，磷光物质
inflammable 易燃的
combustion 燃烧
spontaneous combustion
ceramic 陶瓷的 瓷器
insulate 隔离，绝缘
insulator vs. conductor
fiber 纤维 (BE: fibre)fiber optics 纤维光学
optics 光学
retina 视网膜
iris 虹膜
opaque 不透明的 v.s. transparent, translucent
microprocessor 微处理器
binary 二进制的
buffer 缓冲区 buffer storage
browser 浏览器
hypertext 超文本
envisage 想象，看作
momentous (极为) 重要的
reticular 网状的
Ethernet 以太网
domain 域 domain names
cyberlaw 网络法律 “cyber-”: Internet related cyberlove, cybercafe, …
patent 专利
chronological 按时间顺序的
robot 机器人
artificial 人造的，做作的 artificial satellite
cone 圆锥体，锥形物
Jupiter 木星 Mercury, Venus, Mars, Saturn
exorbitant 过度的，过分的，过高的
centripetal 向心 (力) 的 centrifugal
high-rise 高楼 skyscraper
cathedral 大教堂
dome 圆顶
infrastructure 基础设施 superstructure
sewage 污水，下水道
hydraulic 水力的，水压的
landfill 垃圾掩埋 (地)
ventilation 通风
thermostat 温控器 thermos, thermometer, thermonuclear
prefabricate 预先制造
polytechnic 各种工艺的 理工学校 Hong Kong Polytechnic
geometric 几何 (学) 的 geometry
asymmetry 不对称 symmetry
concave 凹的 convex
bilateral 双边的，两方面的 unilateral
paradoxical “似非而是”的 paradox 悖论
empirical 经验的 empirical law/formula
clockwise 顺时针的 anticlockwise

火山爆发

abundant adj. 丰富的，富余的
accretion n. 增长
accumulation n. 积聚，堆积物
active volcano 活火山
Alaska Volcano Observatory 阿拉斯加州火山观察站
Aleutian Islands 阿留申群岛（环布于阿拉斯加半岛尖端的弧形岛屿）
alternating layers of lava flows 熔岩流的交互叠层
aluminum n. [化] 铝
Archean adj. [地质] 太古代的
Archeology n. 考古学
ascending adj. 上升的，向上的
ash particle 灰烬微粒
avalanche n.&v. 雪崩
awesome adj. 引起敬畏的，可怕的
basaltic lava 玄武岩火山石
basin-shaped adj. 盆状的
beat out 敲平
belated adj. 误期的，迟来的
blacksmith n. 铁匠
blanket n. 毯子，覆盖
blast n. 一股（气流），爆炸，冲击波
blob n. 一滴，水滴
blocky adj. 短而结实的，斑驳的
bombs n. 火山口喷出的大堆球状熔岩
bowl-shaped crater 碗型的火山口
bubble n. 泡沫
bulbous adj. 球根的
buoyancy n. 浮性，浮力
calcium n. [化] 钙（元素符号 ca）
caldera n. [地质] 喷火山口，凹陷处
carbon dioxide [化] 二氧化碳
carbonated soft drink 碳酸饮料
Caribbean n. 加勒比海
catastrophic adj. 悲惨的，灾难的
chimney n. 烟囱，灯罩
cinder cone 火山渣形成的圆锥体
circular depression 圆形的凹陷
circular adj. 圆形的，循环的
composite volcano 复式火山
conduit n. 导管，沟渠
conduit system 沟渠系统
cone n. 锥形物，圆锥体
congeal v.（使）冻结，（使）凝结
conical hill 圆锥型的小山
Cotopaxi n. 科多帕希火山（在厄瓜多尔北部）
coulee n. 深谷，[地质] 熔岩流
craggy adj. 陡峭的
crater n. 坑
crumple v. 弄皱，压皱
crystal adj. 结晶状的；n. 晶体
crystalline adj. 水晶的
crystallization n. 结晶化
cubic kilometer 立方公里
debris n. 碎片，残骸
demolish vt. 毁坏，破坏
dense clouds of lava fragments 浓密的火

山岩碎片
descend on 袭击
destructive power 破坏力
devastate vt. 毁坏
diameter n. 直径
dike n. 堤防
dissolved gases 稀释的气体
dome n. 圆屋顶
domical shape 圆顶型
dormancy n. 睡眠，冬眠
dormant adj. 睡眠状态的，静止的
downslope adj. 下坡的； adv. 向着坡下
Earth's crust 地壳
ejected material 喷射出来的物质
elongate v. 拉长，（使）伸长
embedded adj. 植入的，内含的
emission n.（光、热等的）散发，发射，喷射
Enceladus n. 土卫 [希神] 恩克拉多斯（反叛众神的巨人）
eon n. 永世，无数的年代
erosion n. 腐蚀，侵蚀
formation of cone 火山口的形成
lava flow 熔岩流
eruption n. 爆发，火山灰
evacuate v. 撤退
evolve v.（使）发展，（使）进展
exhume vt. 掘出，发射
fannning n. 铺开，展开
fertile adj. 肥沃的，富饶的
fissure n. 裂缝，裂沟
flank n. 侧面
flooding n. 泛滥，水灾
fluid lava flow 流动的熔岩流
folding adj. 可折叠的
force of gravity 重力，地心引力
forge v. 铸造
fracture n. 破裂
fragment n. 碎片，断片
froth n. 泡沫，废物
Fuji n. 富士山（在日本本州岛上的死火山）
funnel-shaped crater 漏斗型的火山口
gas pressure 气压
gaseous adj. 气体的，气态的
geologic adj. 地质（学）的，地质（学）上的
geologist n. 地质学者
geophysicist n. 地球物理学者
glassy adj. 像玻璃的
granitic adj. 花岗石的，由花岗岩形成的
hemisphere n. 半球
high-velocity adj. 高速的
igneous adj. 火的，似火的 [地] 火成的
imaging n.[计] 成像
imperceptible adj. 觉察不到的，感觉不到的，极细微的
incandescent adj. 遇热发光的，白炽的
inferno n. 阴间，地狱
ingredient n. 成分，因素
interfere with 妨碍

intermittently adv. 间歇地
island chain 列岛
Jupiter n. 木星
Kamchatka n. 勘察加半岛（苏联东北部）
landscape n. 风景，地形
landslide n.[山崩]，崩塌的泥石
lava dome 圆顶火山
lava plateau 火山岩高地
lava n. 熔岩，火山岩
linear chain 线形链
live in harmony with 与 ..... 和睦相处
magma n. 岩浆
magnesium n.[化] 镁
magnitude n. 量级
majestic adj. 宏伟的，庄严的
manganese n. 锰（元素符号为 Mn）
mantle composition 覆盖物的成分
Mercury n. 水星
molten v. 溶化；adj. 熔铸的
monitor n. 监视器，监控
mudflow n.[地] 泥流
Neptune n. [天] 海王星
non-explosive lava flows 非爆炸性的火山岩流
oval adj. 卵形的，椭圆的
oxygen n.[化] 氧
particle n. 粒子，微粒
pasty adj. 浆状的
Pele, Goddess of Volcanoes 火山女神
pent adj. 被关闭的，郁积的
periodic violent unleashing 周期性的猛烈释放
plain n. 平原，草原
planetary probe 行星探测器
planetary scientist 行星科学家
Pompeii n. 庞培（意大利古都，公元 79 年火山爆发，全城淹没）
population density 人口密度
potassium n. [化] 钾
precipitate n. 沉淀物；v. 使沉淀
precursory adj. 预示的，先驱的
probe n. 探测器
profile n. 剖面，侧面，外形
project v. 凸出
prominent adj. 显著的，突出的
property damage 财务损坏
pumice n. 轻石，浮石
pyroclastic flow [地质] 火成碎屑流，火山灰流
quench v. 熄灭，平息
reawaken v. 再度觉醒
reemergence n. 再度出现
reminder n. 提醒的人，暗示
reservoir n. 水库，蓄水池
resurgent adj. 复活的
rift zone 断裂区
Saturn n. [天] 土星
sculpt v. 雕刻，造型
seismograph n. 地震仪，测震仪
shatter n. 粉碎，碎片；vt. 粉碎，破坏
shield volcano 盾状火山
Sierra Nevada 内华达山脉

silicate n.[化] 硅酸盐
silicon n. [化] 硅
sloping cone 有坡度的圆锥体
sodium n.[化] 钠
solar system [天] 太阳系
solidification n. 凝固
solidify v.(使) 凝固，巩固
spine n. 脊骨，地面隆起地带
spiteful adj. 怀恨的，恶意的
steep-sided, symmetrical cone 陡峭和对称的圆锥体
steep-walled adj. 峭壁的
stratospheric winds 同温层风
stratovolcanoes n. 层云火山
succession n. 连续，连续性
sulfur dioxide n. [化] 二氧化碳
summit n. 顶点
supernatural adj. 超自然的，神奇的
sustain vt. 支撑，撑住，维持
swarm n. 一大群
swelling n. 河水猛涨，涨水
telltale remnant 证据性的残余物
terrane n. 岩石
Titan n.[希腊] 提坦，太阳神
titanium n.[化] 钛
trace n. 微量
Triton n. 海卫，[希神] 人身鱼尾的海神
tsunami n. 海啸
uplift v.& n. 升起
vegetation n. [植] 植被，（总称）植物
ventilated adj. 通风的
vent n. 通风孔，出烟孔，出口
Venus n. [罗神] 维纳斯，[天] 金星
Vesuvius n. 维苏威火山（位于意大利西南部，欧洲大陆惟一的活火山）
viscous adj. 粘性的，粘滞的
volcanic activity 火山活动
volcanic ash and dust 火山灰尘
volcanic ash 火山灰
volcanic cinders 火山灰
volcanic dust 火山尘土
volcanic eruption 火山爆发
volcanic feature 火山特征
volcanic landform 火山地形
volcanic lava dome 火山岩圆顶
volcanic terrain 火山地形
volcanic vent 火山口
volcanism n. 火山作用
volcano n. 火山
volcanologist n. 火山学家
weathering n. 侵蚀，风化
whopping adj. 巨大的，庞大的
wrathful adj. 愤怒的，激怒的
Yosemite National Park（美国加利福尼亚州中部）约塞米蒂国家公园
zircon n. 锆石

答 案

A Wonder Plant-Bamboo 神奇的竹子

1. B　　Section B 第 3 行
2. E　　Section E 第 3 行
3. D　　Section D 第 1 行
4. D　　Section D 第 2 行
5. A　　Section A 第 11 行
6. B
7. C　　Section C 第 10 行
8. A　　Section A 第 7 行
9. B　　Section B 第 4 行
10. B　　Section E 第 5 行
11. D
12. Soil erosion
13. paper

Ambergris 龙涎香

1. C
2. A
3. D
4. A
5. B
6. beaks
7. passage
8. vomited
9. hardens
10. TRUE
11. NOT GIVEN
12. NOT GIVEN
13. FALSE

Biodiversity 生物多样化

14. TRUE

ecosystem=environment 作为替换

15. FALSE

因为 information not available， not unnecessary 必要研究

16. TRUE

17. TRUE

18. FALSE

19. NOT GIVEN

20. NOT GIVEN

21. keystone

22. family(fig)/sea

23. urchins(urchins)

24. cactus moth

25. Australia

26. public education

Biology of bitterness 苦涩的生物

1. B

2. I

3. C

4. E

5. G

6. H

7. A

8. D

9. Naringin

10. poisonous

11. supertasters

12. taste buds

13. A

14. D

Going Bananas 香蕉

1. ten thousand
2. South-East Asia
3. hard seeds
4. F
5. A
6. D
7. C
8. E
9. B
10. C
11. NOT GIVEN
12. FALSE
13. TRUE

LONGAEVA:Ancient Bristlecone Pine 古松树

Questions 1-4

1. I
2. C
3. D
4. A

Questions 5-7

5. B
6. A
7. D

Questions 8-13

8. energy,
9. stratification,
10. bark,
11. dry air,
12. ground cover,
13. distance

Mangroves Forests of the Tide 红树林

1-5

1. adapters
2. ultrafiltration system
3. complex root system
4. River-borne sediments
5. trunks and branches

6-11

6. False
7. Not Given
8. Not Given
9. True
10. False
11. True

12-13

A D

Origin of Species & Continent Formation 物种起源

Questions 1-5

1. E D 段 3 行
2. A
3. D
4. B E 段末尾 1 句
5. C A 段倒数第 4 行

Questions 6-8

6. C B 段 1 行 7 G F 段 7 行 8 H G 段 4 行

Questions 9-13

9. migrated H 段 2 行
10. withering skin H 段 4 行
11. tectonic plates I 段 2 行
12. dispersalism I 段
13. vicarisanism, I 段

Researcher on the Tree Crown 树冠研究

14. B
15. C
16. A
17. F
18. E
19. locals
20. balloons
21. raft/rafts
22. (static) crane/cranes
23. D
24. B
25. F
26. E
27. B　定位 E 段

Seed Hunting 种子收集

14-19
14. TRUE
15. NOT GIVEN
16. TRUE
17. TRUE
18. FALSE
19. TRUE
20-24
20. extinction
21. drugs, crops
22. pioneers
23. Sir Joseph Banks
24. underground vaults
25-26
25. A
26. B

The "extinct" grass in Britain 英国灭绝的草

1. FALSE
2. FALSE
3. NOT GIVEN
4. TRUE
5. FALSE
6. TRUE
7. NOT GIVEN
8. E
9. C
10. A
11. D
12. F
13. B

The Perfume Hunters 马达加斯加寻香

14. i
15. vi
16. iv
17. v
18. viii
19. TRUE
20. TRUE
21. NOT GIVEN
22. FALSE
23. NOT GIVEN
24. Headspace
25. Filters
26. Needle

Water Treatment 2: Reed Bed 新植物净水

14. FALSE 第一段最后一句

15. TRUE 第三段倒二句
16. NOT G 工 VEN 文章中没有提到那种细菌
17. sludge F 段第一句
18. sand F 段第一句
19. gravel F 段第一句
20. A G 段倒二句它们能够处理那些严重污染的排放物
21. B G 段最末句他们们需要更多的层床体
22. E G 段最末句芦苇床体经常工作一段时间后体息一段时间 (D 错，因为文章之说它们需要比水平系统更多的管理，而非需要很多监管)
23. C
24. G 垂直系统的缺点就是水平系统的优点，因为水平系统更简单，更容易建
25. B 最末段，第二句开头它们环保而且在处理污水时更美观 (没有视觉冲突)
26. D 最末段，第二句结尾比其他系统安装省钱 ((A, C, E 在文章中都没有提到)

When the tulip bubble burst 郁金香泡沫

14. I
15. D
16. B
17. G
18. F
19. TRUE 参考 B 段第 1 句
20. FALSE 参考 D 段第 2 句
21. TRUE 参考 G 段
22. NOT GIVEN
23. FALSE 参考 I 段
24. Fighting
25. commerce
26. flower gardens
27. flower lovers