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 历史

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

Computer Provides More Questions Than Answers

A lies 18 miles north of Crete, where the Aegean Sea meets the Mediterranean. Currents there can make shipping treacherous ~ and one ship bound for ancient Rome never made it. The ship that sank there was a giant cargo vessel measuring nearly 500 feet long. It came to rest about 200 feet below the surface, where it stayed for more than 2,000 years until divers looking for sponges discovered the wreck a little more than a century ago.

B Inside the hull were a number of bronze and marble statues. From the look of things, the ship seemed to be carrying luxury items, probably made in various Greek islands and bound for wealthy patrons in the growing Roman Empire. The statues were retrieved, along with a lot of other unimportant stuff, and stored. Nine months later, an enterprising archaeologist cleared off a layer of organic material from one of the pieces of junk and found that it looked like a gearwheel. It had inscriptions in Greek characters and seemed to have something to do with astronomy.

C That piece of "junk" went on to become the most celebrated find from the shipwreck; it is displayed at the National Archaeological Museum of Athens. Research has shown that the wheel was part of a device so sophisticated that its complexity would not be matched for a thousand years—it was also the world's first known analog computer. The device is so famous that an international conference organized in Athens a couple of weeks ago had only one subject: the Antikythera Mechanism.

D Every discovery about the device has raised new questions. Who built the device, and for what purpose? Why did the technology behind it disappear for the next thousand years? What does the device tell us about ancient Greek culture? And does the marvelous construction, and the precise knowledge of the movement of the sun and moon and Earth that it implies, tell us how the ancients grappled with ideas about determinism and human destiny?

E "We have gear trains from the 9th century in Baghdad used for simpler displays of the solar and lunar motions relative to one another ~ they use eight gears," said Francois Charette, a historian of science in Germany who wrote an editorial accompanying a new study of the mechanism two weeks ago in the journal Nature. "In this case, we have more than 30 gears. To see it on a computer animation makes it mind-boggling. There is no doubt it was a technological masterpiece."

F The device was probably built between 100 and 140 BC, and the understanding of astronomy it displays seems to have been based on knowledge developed by the Babylonians around 300-700 BC, said Mike Edmunds, a professor of astrophysics at Cardiff University in Britain. He led a research team that reconstructed what the gear mechanism would have looked like by using advanced three-dimensional-imaging technology. The group also decoded a number of the inscriptions. The mechanism explores the relationship between lunar months—the time it takes for the moon to cycle through its phases, say, full moon to full moon— and calendar years. The gears had to be cut precisely to reflect this complex relationship; 19 calendar years equal 235 lunar months.

G By turning the gear mechanism, which included what Edmunds called a beautiful system of epicyclic gears that factored in the elliptical orbit of the moon, a person could check what the sky would have looked like on a date in the past, or how it would appear in the future. The mechanism was encased in a box with doors in front and back covered with inscriptions—a sort of instruction manual. Inside the front door were pointers indicating the date and the position of the sun, moon and zodiac, while opening the back door revealed the relationship between calendar years and lunar months, and a mechanism to predict eclipses.

H "If they needed to know when eclipses would occur, and this related to the rising and setting of stars and related them to dates and religious experiences, the mechanism would directly help," said Yanis Bitsakis, a physicist at the University of Athens who co-wrote the Nature paper. "It is a mechanical computer. You turn the handle and you have a date on the front." Building

it would have been expensive and required the interaction of astronomers, engineers, intellectuals and craftspeople. Charette said the device overturned conventional ideas that the ancient Greeks were primarily ivory tower thinkers who did not deign to muddy their hands with technical stuff. It is a reminder, he said, that while the study of history often focuses on written texts, they can tell us only a fraction of what went on at a particular time.

I Imagine a future historian encountering philosophy texts written in our time—and an aircraft engine. The books would tell that researcher what a few scholars were thinking today, but the engine would give them a far better window into how technology influenced our everyday lives. Charette said it was unlikely that the device was used by practitioners of astrology, then still in its infancy. More likely, he said, it was bound for a mantelpiece in some rich Roman's home. Given that astronomers of the time already knew how to calculate the positions of the sun and the moon and to predict eclipses without the device, it would have been the equivalent of a device built for a planetarium today ~ something to spur popular interest, or at least claim bragging rights.

J Why was the technology that went into the device lost? "The time this was built, the jackboot of Rome was coming through," Edmunds said. "The Romans were good at town planning and sanitation but were not known for their interest in science." The fact that the device was so complex, and that it was being shipped with a quantity of other luxury items, tells Edmunds that it is very unlikely to have been the only one ever made. Its sophistication "is such that it can't have been the only one," Edmunds said. "There must have been a tradition of making them. We're always hopeful a better one will surface." Indeed, he said, he hopes that his study and the renewed interest in the Antikythera Mechanism will prompt second looks by both amateurs and professionals around the world. "The archaeological world may look in their cupboards and maybe say, 'That isn't a bit of rusty old metal in the cupboard.'"

Questions 14-18

The reading Passage has ten paragraphs A-J.

Which paragraph contains the following information?

Write the correct letter A-J, in boxes 14-18 your answer sheet.

14 Content inside the wreck ship

15 Ancient astronomers and craftsman might involve

16 The location of Antikythera Mechanism

17 Details of how it was found

18 Appearance and structure of the mechanism

Questions 19-22

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 19-22 on your answer sheet.

An ancient huge sunk 19_____was found accidentally by sponges searcher.The ship loaded with 20_____such as bronez and sculptures. However, an archaeologist found a junk similar to a 21_____which has Greek script on it.This inspiring and elaborated device was found to be the first 22_____in the world.

Questions 23-26

Use the information in the passage to match the people (listed A-C) with opinions or deeds below. Write the appropriate letters A-F in boxes 23-27 on your answer sheet.

NB you may use any letter more than once

A Yanis Bitsakis
B Mike Edmunds
C Francois Charette

23 More complicated than previous device

24 Anticipate to find more Antikythera Mechanism in the future

25 Antikythera Mechanism was found related to moon

26 Mechanism assisted ancient people to calculate movement of stars.

Timekeeper
Invention of Marine Chronometer

A It was, as Dava Sobel has described a phenomenon: 'the greatest scientific problem of the age'. The reality was that in the 18th century no one had ever made a clock that could suffer the great rolling and pitching of a ship and the large changes in temperature whilst still keeping time accurately enough to be of any use. Indeed, most of the scientific community thought such clock impossibility. Knowing one's position on the earth requires two very simple but essential coordinates; rather like using a street map where one thinks in terms of how far one is up/down and how far side to side.

B The longitude is a measure of how far around the world one has come from home and has no naturally occurring base line like the equator. The crew of a given ship was naturally only concerned with how far round they were from their own particular home base. Even when in the middle of the ocean, with no land in sight, knowing this longitude position is very simple in theory. The key to knowing how far around the world you are from home is to know, at that very moment, what time it is back home. A comparison with your local time (easily found by checking the position of the Sun) will then tell you the time difference between you and home, and thus how far round the Earth you are from home.

C Up until the middle of the 18th century, navigators had been unable to determine their position at sea with accuracy and they faced the huge attendant risks of shipwreck or running out of supplies before reaching their destination. The angular position of Moon and other bright stars was recorded in three-hour intervals of Greenwich Time. In order to determine longitude, sailors had to measure the angle between Moon centre and a given star—lunar distance—together with height of both planets using the naval sextant (六分仪). The sailors also had to calculate the Moon's position if seen form the centre of Earth. Time corresponding to Greenwich Time was determined using the

natitical almanac (航海天文历). Then the difference between the obtained time and local time served for calculation in longitude from Greenwich. The great flaw in this 'simple' theory was-how does the sailor know time back home when he is in the middle of an ocean?

D The obvious and again simple answer is that he takes an accurate clock with him, which he sets to home time before leaving. All he has to do is keep it wound up and running, and he must never reset the hands throughout the voyage This clock then provides 'home time', so if, for example, it is midday on board your ship and your 'home time' clock says that at that same moment it is midnight at home, you know immediately there is a twelve hour time-difference and you must be exactly round the other side of the world, 180 degrees of longitude from home.

E After 1714 when the British government offered the huge sum of £20,000 for a solution to the problem, with the prize to be administered by the splendidly titled Board of Longitude. The Government prize of £20,000 was the highest of three sums on offer for varying degrees of accuracy, the full prize only payable for a method that could find the longitude at sea within half a degree. If the

solution was to be by timekeeper (and there were other methods since the prize was offered for any solution to the problem), then the timekeeping required to achieve this goal would have to be within 2.8 seconds a day, a performance considered impossible for any clock at sea and unthinkable for a watch，even under the very best conditions.

F It was this prize, worth about £2 million today, which inspired the self-taught Yorkshire carpenter, John Harrison, to attempt a design for a practical marine clock. During the latter part of his early career, he worked with his younger brother James. Their first major project was a revolutionary turret clock (塔楼 钟) for the stables at Brocklesby Park, seat of the Pelham family. The clock was revolutionary because it required no lubrication. 18th century clock oils were uniformly poor and one of the major causes of failure in clocks of the period. Rather than concentrating on improvements to the oil, Harrison designed a clock which didn't need it. In 1730 Harrison created a description and drawings for a proposed marine clock to compete for the Longitude Prize and went to London seeking financial assistance. He presented his ideas to Edmond Halley, the Astronomer Royal. Halley referred him to George Graham, the country's foremost clockmaker. He must have been impressed by Harrison, for Graham personally loaned Harrison money to build a model of his marine clock. It took Harrison five years to build Harrison Number One or HI. He demonstrated it to members of the Royal Society who spoke on his behalf to the Board of Longitude. The clock was the first proposal that the Board considered to be worthy of a sea trial.

G After several attempts to design a betterment of H1, Harrison believed that the solution to the longitude problem lay in an entirely different design.

H4 is completely different from the other three timekeepers. It looks like a very large pocket watch. Harrison's son William set sail for the West Indies (西印度群岛), with H4, aboard the ship Deptford on 18 November 1761. It was a remarkable achievement but it would be some time before the Board of Longitude was sufficiently satisfied to award Harrison the prize.

H John Hadley, an English mathematician, developed sextant, who was a competitor of Harrison at that time for the luring prize. A sextant is an instrument used for measuring angles, for example between the sun and the horizon, so that the position of a ship or aeroplane can be calculated. Making this measurement is known as sighting the object, shooting the object, or taking a sight and it is an essential part of celestial navigation. The angle, and the time when it was measured, can be used to calculate a position line on a nautical or aeronautical chart. A sextant can also be used to measure the Lunar distance between the moon and another celestial object (e.g., star, planet) in order to determine Greenwich time which is important because it can then be used to determine the longitude.

I The majority within this next generation of chronometer pioneers were English, but the story is by no means wholly that of English achievement. One French name, Pierre Le Roy of Paris, stands out as a major presence in the early history of the chronometer. Another great name in the story is that of the Lancastrian, Thomas Earnshaw, a slightly younger contemporary of John Arnold's. It was Earnshaw who created the final form of chronometer escapement, the spring detent escapement, and finalized the format and the production system for the marine chronometer, making it truly an article of commerce, and a practical means of safer navigation at sea over the next century and half.

Questions 1-5

The reading Passage has ten paragraphs A-J.

Which paragraph contains the following information?

Write the correct letter A-J, in boxes 1-5 on your answer sheet.

1 introduction of a millman under awards

2 the definition of an important geographical term

3 a rival against Harrison's invention emerged

4 problems of sailor encountered in identifying the position on the sea

5 economic assist from another counterpart

Questions 6-8

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

In boxes 6-8 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 It is with no great effort by sailors to calculate the position when in the center of the ocean.

7 To determine the longitude, a measurement of distance from moon to a given star is a must.

8 In theory, by calculating the longitude degrees covered by a sail journey, the distance between the start and the end points can be obtained.

Questions 9-13

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 9-13 on your answer sheet.

Hundred years ago，sailors tried to identify their time by checking the sun or stars, but the trouble was that they did need a reliable clock which showed time of 9 _____ And the timekeeper required would be to precisely tell a tangible time lapse confined to 10 _____ : An extraordinary craftsman, Harrison, once created a novel clock which did not rely on 11 _____ to work properly. Later on, competitive mode of 12 _____ was another prominentdevice designed by Hadley, which calculated angle between sun and the earth. Base on Harrison's effort，Earns haw eventually implement key components for 13 _____ which had been used ever since.

Mystery in Easter Island!

A One of the world's most famous yet least visited archaeological sites, Easter Island is a small, hilly, now treeless island of volcanic origin. Located in the Pacific Ocean at 27 degrees south of the equator and some 2200 miles (3600 kilometers) off the coast of Chile, it is considered to be the world's most remote inhabited island. The island is, technically speaking, a single massive volcano rising over ten thousand feet from the Pacific Ocean floor. The island received its most well-known current name, Easter Island, from the Dutch sea captain Jacob Roggeveen who became the first European to visit Easter Sunday, April 5,1722.

B In the early 1950s, the Norwegian explorer Thor Heyerdahl popularized the idea that the island had been originally settled by advanced societies of Indians from the coast of South America. Extensive archaeological, ethnographic and linguistic research has conclusively shown this hypothesis to be inaccurate. It is now recognized that the original inhabitants of Easter Island are of Polynesian (波利尼西亚) stock (DNA extracts from skeletons have confirmed this, that they most probably came from the Marquesas or Society islands, and that they arrived as early as 318 AD (carbon dating of reeds £rom a grave confirms this). At the time of their arrival, much of the island was forested, was teeming with land birds, and was perhaps the most productive breeding site for seabirds in the Polynesia region. Because of the plentiful bird, fish and plant food sources, the human population grew and gave rise to a rich religious and artistic culture.

C That culture's most famous features are its enormous stone statues called moai, at least 288 of which once stood upon massive stone platforms called ahu. There are some 250 of these ahu platforms spaced approximately one half mile apart and creating an almost unbroken line around the perimeter of the island. Another 600 moai statues, in various stages of completion, are scattered around the island, either in quarries (采石场) or along ancient roads between the quarries and the coastal areas where the statues were most often erected. Nearly all the moai are carved from the tough stone of the Ratio Raraku

volcano. The average statue is 14 feet, 6 inches tall and weighs 14 tons. Some moai were as large as 33 feet and weighed more than 80 tons. Depending upon the size of the statues, it has been estimated that between 50 and 150 people were needed to drag them across the countryside on sleds and rollers made from the island's trees.

D Scholars are unable to definitively explain the function and use of the moai statues. It is assumed that their carving and erection derived from an idea rooted in similar practices found elsewhere in Polynesia but which evolved in a unique way on Easter Island. Archaeological and iconographic analysis indicates that the statue cult was based on an ideology of male, lineage-based authority incorporating anthropomorphic symbolism. The statues were thus symbols of authority and power, both religious and political. But they were not only symbols. To the people who erected and used them, they were actual repositories of sacred spirit. Carved stone and wooden objects in ancient Polynesian religions, when properly fashioned and ritually prepared, were believed to be charged by a magical spiritual essence called mana. The ahu platforms of Easter Island were the sanctuaries of the people, and the moai statues were the ritually charged sacred objects of those sanctuaries.

E Besides its more well-known name, Easter Island is also known as Te-Pito-O-Te-Henua, meaning 'The Navel of the World' , and as Mata-Ki-Te-Rani, meaning ' Eyes Looking at Heaven'. These ancient name and a host of mythological details ignored by mainstream archaeologists, point to the possibility that the remote island may once have been a geodetic (地理测量的) marker and the site of an astronomical observatory of a long forgotten civilization. In his book, Heaven's Mirror, Graham Hancock suggests that Easter Island may once have been a significant scientific outpost of this antediluvian (太古时代的) civilization and that its location had extreme importance in a planet-spanning, mathematically precise grid of sacred sites. Two other alternative scholars, Christopher Knight and Robert Lomas, have extensively studied the location and possible function of these geodetic markers. In their fascinating book, Uriel's Machine, they suggest that one

purpose of the geodetic markers was as part of global network of sophisticated astronomical observatories dedicated to predicting and preparing for future commentary impacts and crystal displacement cataclysms.

F In the latter years of the 20th century and the first years of the 21st century various writers and scientists have advanced theories regarding the rapid decline of Easter Island's magnificent civilization around the time of the first European contact. Principal among these theories, and now shown to be inaccurate, is that postulated by Jared Diamond in his book Collapse : How Societies Choose to Fail or Survive. Basically these theories state that a few centuries after Easter Island's initial colonization the resource needs of the growing population had begun to outpace the island's capacity to renew itself ecologically. By the 1400s the forests had been entirely cut, the rich ground cover had eroded away, the springs had dried up, and the vast flocks of birds coming to roost on the island had disappeared. With no logs to build canoes for offshore fishing, with depleted bird and wildlife food sources, and with declining crop yields because of the erosion of good soil, the nutritional intake of the people plummeted. First famine, then cannibalism（食人行为， set in. Because the island could no longer feed the chiefs, bureaucrats and priests who kept the complex society running, the resulting chaos triggered a social and cultural collapse. By 1700 the population dropped to between one-quarter and one-tenth of its former number, and many of the statues were toppled during supposed "clan wars " of the 1600 and 1700s.

G The faulty notions presented in these theories began with the racist assumptions of Thor Heyerdahl and have been perpetuated by writers, such as Jared Diamond, who do not have sufficient archaeological and historical understanding of the actual events which occurred on Easter Island. The real truth regarding the tremendous social devastation which occurred on Easter Island is that it was a direct consequence of the inhumane behavior of many of the first European visitors, particularly the slavers who raped and murdered the islanders, introduced small pox and other diseases, and brutally removed the natives to mainland South America.

Questions 27-31

The reading passage has seven paragraphs, A-G

Choose the correct heading for paragraphs A-G from the list below.

Write the correct number, i-xi, in boxes 27-31 on your answer sheet.

NB There are more headings than paragraphs，so you will not use them all

List of Headings

i. The famous moai
ii. The status represented symbols of combined purposes
iii. The ancient spots which indicates scientific application
iv. The story of the name
v. Early immigrants, rise and prosperity
vi. The geology of Easter Island
vii. The begin of Thor Heyerdahl’s discovery
viii. The countering explaination to the misconceptions politaically manipulated
ix. Symbols of authority and power
x. The Navel of the World
xi. The norweigian Invaders’ legacy

Example Answer
Paragraph A iv

27 Paragraph B
Paragraph C i
28 Paragraph D
29 Paragraph E
30 Paragraph G

Questions 31-36

Do the following statements agree with the information given in Reading Passage 3?

In boxes 31-36 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*

31 The first inhabitants of Easter Island are Polynesian, from the Marquesas or Society islands.

32 Construction of some moai statues on the island was not finished.

33 The Moai can be found not only on Easter Island but also elsewhere in Polynesia.

34 Most archeologists recognised the religious and astronomical functions for an ancient society

35 The structures on Easter Island work as an astronomical outpost for extraterrestrial visitors.

36 the theory that depleted natural resources leading to the fail of Easter Island actual has a distorted perspective

Questions 37-40

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 37-40 on your answer sheet.

Many theories speculated that Easter Island's fall around the era of the initial European contact. Some say the resources are depleted by a 37 _____ ; The erroneous theories began with a root of the 38 _____ advanced by some scholars. Early writers did not have adequate 39 _____ understandings to comprehend the true nature of events on the island. The social devastation was in fact a direct result of 40 _____ of the first European settlers.

Revolutions in Mapping

A Today, the mapmaker's vision is no longer confined to what the human eye can see. The perspective of mapmaking has shifted from the crow's nest of the sailing vessel, mountain top and airplane to 'new orbital heights. Radar, which bounces microwave radio signals off a given surface to create images of its contours and textures, can penetrate jungle foliage and has produced the first maps of the mountains of the planet Venus. And a combination of sonar and radar produces charts of the seafloor, putting much of Earth on the map for the first time. 'Suddenly it's a whole different world for us,' says Joel Morrison, chief of geography at the U.S. Bureau of the Census, 'Our future as mapmakers-even ten years from now-is uncertain.'

B The world's largest collection of maps resides in the basement of the Library of Congress in Washington, D.C. The collection, consisting of up to 4,6 million map sheets and 63,000 atlases, includes magnificent bound collections of elaborate maps-the pride of the golden age of Dutch cartography*. In the reading room scholars, wearing thin cotton g.loves to protect the fragi. le sheets, examine ancient maps with magnifying glasses. Across the room people sit at their computer screens, studying the latest maps, With their prodigious memories, computers are able to store data about people, places and environments-the stuff of maps-and almost instantly information is displayed on the screen in the desired geographic context, and at the dick of a button, a print-out of the map appears.

C Measuring the spherical Earth ranks as the first major milestone in scientific cartography. This was first achieved by the Greek astronomer Eratosthenes, a scholar at the famous Alexandrian Library in Egypt in the third century BC. He calculated the Earth's circumference as 25,200 miles, which was remarkably accurate. The longitudinal circumference is known today to be 24,860 miles.

D Building on the ideas of his predecessors, the astronomer and geographer Ptolemy, working in the second century AD, spelled out a system for organising maps according to grids of latitude and longitude. Today, parallels

of latitude are often spaced at intervals of 10 to 20 degrees and meridians at 15 degrees, and this Is the basis for the width of modern time zones. Another legacy of ptolemy's is his advice to cartographers to create maps to scale. Distance on today's maps is expressed as a fraction or ratio of the real distance. But mapmakers in Ptolemy's time lacked the geographic knowledge to live up to ptolemy's scientific principles. Even now, when surveyors achieve accuracies down to inches and satellites can plot potential missile targets within feet, maps are not true pictures of reality.

E However, just as the compass improved navigation and created demand for useful charts, so the invention of the printing press in the 15th century put maps in the hands of more people, and took their production away from monks, who had tended to illustrate theology rather than geography. Ocean-going ships launched an age of discovery, enlarging both what could and needed to be mapped, and awakened an intellectual spirit and desire for knowledge of the world.

F Inspired by the rediscovered Ptolemy, whose writing had been preserved by Arabs after the sacking of the Alexandrian Library in AD 931, mapmakers in the 15th century gradually replaced theology with knowledge of faraway places, as reported by travelling merchants like Marco Polo.

G Gerhardus Mercator, the foremost shipmaker of the 16th century, developed a technique of arranging meridians and parallels in such a way that navigators could draw straight lines between two points and steer a constant compass course between them. This distortion formula, introduced on his world map of 1569, created the 'Greenland problem'. Even on some standard maps to this day, Greenland looks as large as South America-one of the many problems when one tries to portray a round world on a flat sheet of paper. But the Mercator projection was so practical that it is still popular with sailors.

H Scientific mapping of the land came into its own with the achievements of the Cassini family-father, son, grandson and great-grandson. In the late 17th century, the Italian-born founder, Jean-Dominique, invented a complex method of determining longitude based on observations of Jupiter's moons. Using this technique, surveyors were able to produce an accurate map of France. The family continued to map the French countryside and his great grandson finally published their famous Cassini map in 1793 during the French Revolution. While it may have lacked the artistic appeal of earlier maps, it was the model of a social and geographic map showing roads, rivers, canals, towns, abbeys, vineyards, lakes and even windmills. With this achievement, France became the first country to be completely mapped by scientific methods.

I Mapmaking has come a long way since those days. Today's surveyors rarely go into the field without being linked to navigation satellites. Their hand-held receivers are the most familiar of the new mapping technologies, and the satellite system, developed and still operated by the US Defense Department, is increasingly used by surveyors. Even ordinary hikers, sailors and explorers can tap into it for data telling them where they are. Simplified civilian versions of the receivers are available for a few also the heart of electronic map displays available in some cars. Cartography is pressing on to cosmic frontiers, but its objective is, and always has been, to communicate a sense of 'here' in relation to 'there', however far away 'there' may be.

Questions 14-18

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

Write the correct letter in boxes 14-18 on your answer sheet.

14 According to the first paragraph, mapmakers in the 21st century

A combine techniques to chart unknown territory.

B still rely on being able to see what they map.

C are now able to visit the darkest jungle .

D need input from experts in other fields.

15 The Library of Congress offers an opportunity to

A borrow from their collection of Dutch maps.

B learn how to restore ancient and fragile maps.

C enjoy the atmosphere of the reading room.

D create individual computer maps to order.

16 Ptolemy alerted his contemporaries to the importance of

A measuring the circumference of the world.

B organising maps. to reflect accurate ratios of distance.

C working. out the distance between parallels of latitude.

D accuracy and predsionin mapping.

17 The invention of the printing press

A revitalised interest in scientific knowledge

B enabled maps to be produced more cheaply.

C changed the approach to mapmaking.

D ensured that the work of ptolemy was continued.

18 The writer concludes by stating that

A mapmaking has become too specialised.

B cartographers work in very harsh conditions.

C the fundamental aims of mapmaking remain unchanged.

D the possibilities of satellite mapping are infinite.

Questions 19-21

Look at the following list of achievements (Questions 19-21) and the list of mapmakers below.

Match each achievement with the correct mapmaker, A, B, C or D.

Write the correct letter, A, B, Cor D, in boxes 19-21 on your answer sheet.

List of Mapmakers

A Mercator

B Ptolemy

C Cassini family

D Eratosthenes

19 came very close to accurately measuring the distance round the Earth

20 produced maps showing man-made landmarks

21 laid the foundation for our modern time zones

Questions 22-26

Complete the summary below.

Choose ***NO MORE THAN TWO WORDS*** from the passage for each answer.

Write your answers in boxes 22-26 on your answer sheet.

Ancient maps allow us to see how we have come to make sense of the world. They also reflect the attitudes and knowledge of the day. The first great step in mapmaking took place in 22_____in the 3rd century BC. Work continued in this tradition until the 2nd century AD but was then abandoned for over a thousand years, during which time maps were the responsibility of 23_____rather than scientists. Fortunately, however, the writings of 24_____had been kept, and interest in scientific mapmaking was revived as scholars sought to produce maps, inspired by the accounts of travellers. These days, 25_____are vital to the creation of maps and radar has allowed cartographers to map areas beyond our immediate world. In addition, this high-tech equipment is not only used to map faraway places, but cheaper versions have also been developed for use in 26_____.

Serendipity:The Accidental Scientists

A A paradox lies close to the heart of scientific discovery. If you know just what you are looking for, finding it can hardly count as a discovery, since it was fully anticipated. But if, on the other hand, you have no notion of what you are looking for, you cannot know when you have found it, and discovery, as such, is out of the question. In the philosophy of science, these extremes map onto the purist forms of deductivism (*n.* 演绎）and inductivism (*n.* 推理）: In the former, the outcome is supposed to be logically contained in the premises (*n.* 前提，假设）you start with; in the latter, you are recommended to start with no expectations whatsoever and see what turns up.

B As in so many things, the ideal position is widely supposed to reside somewhere in between these two impossible-to-realize extremes. You want to have a good enough idea of what you are looking for to be surprised when you find something else of value, and you want to be ignorant enough of your end point that you can entertain alternative outcomes. Scientific discovery should, therefore, have an accidental aspect, but not too much of one. Serendipity is a word that expresses a position something like that. It's a fascinating word, and the late Robert King Merton—'the father of the sociology of science'—liked it well enough to compose its biography, assisted by the French cultural historian Elinor Barber.

C Serendipity means a 'happy accident' or 'pleasant surprise'; specifically, the accident of finding something good or useful without looking for it. The first noted use of 'serendipity' in the English language was by Horace Walpole (1717-1792). In a letter to Horace Mann (dated 28 January 1754) he said he formed it from the Persian fairy tale The Three Princes of Serendip, whose heroes 'were always making discoveries, by accidents and sagacity, of things they were not in quest of'. The name stems from Serendip, an old name for Sri Lanka.

D Besides antiquarians, the other community that came to dwell on serendipity to say something important about their practice was that of scientists.

Many scientists, including the Harvard physiologist Walter Cannon and, later, the British immunologist Peter Medawar, liked to emphasize how much of scientific discovery was unplanned and even accidental. One of Cannon's favorite examples of such serendipity is Luigi Galvani's observation of the twitching of dissected frogs' legs, hanging from a copper wire, when they accidentally touched an iron railing, leading to the discovery of 'galvanism'; another is Hans Christian Orsted's discovery of electromagnetism when he unintentionally brought a current-carrying wire parallel to a magnetic needle. The context in which scientific serendipity was most contested and had its greatest resonance was that connected with the idea of planned science. The serendipitists were not all inhabitants of academic ivory towers. Two of the great early-20th-century American pioneers of industrial research—Willis Whitney and Irving Langmuir, both of General Electric—made much play of serendipity, in the course of arguing against overly rigid research planning.

E Yet what Cannon and Medawar took as a benign (*adj.* 有益的) method, other scientists found incendiary (*adj.* 煽动性的).To say that science had a significant serendipitous (*adj.* 偶然发现的) aspect was taken by some as dangerous denigration (*n.* 诋毁).If scientific discovery were really accidental, then what was the special basis of expert authority?

F In this connection, the aphorism (*n.* 格言，警句) of choice came from no less an authority on scientific discovery than Louis Pasteur: "Chance favors the prepared mind." Accidents may happen, and things may turn up unplanned and unforeseen, as one is looking for something else, but the ability to notice such events, to see their potential bearing (*n.* 方向，影响) and meaning, to exploit

their occurrence and make constructive use of them—these are the results of systematic mental preparation. What seems like an accident is just another form of expertise. On closer inspection, it is insisted, accident dissolves into sagacity (*n.* 精确的判断).

G In 1936, as a very young man, Merton wrote a seminal essay on "The Unanticipated Consequences of Purposive Social Action." It is, he argued, the nature of social action that what one intends is rarely what one gets: Intending to provide resources for buttressing Christian religion, the natural philosophers of the Scientific Revolution laid the groundwork for secularism (*n.* 政教分离论); people wanting to be alone with nature in Yosemite Valley wind up crowding one another. We just don't know enough and we can never know enough—to ensure that the past is an adequate guide to the future: Uncertainty about outcomes, even of our best-laid plans, is endemic. All social action, including that undertaken with the best evidence and formulated according to the most rational criteria, is uncertain in its consequences.

Questions 28-33

Reading passage 3 has seven paragraphs, A-G

Choose the correct heading for paragraphs A-F from the list of headings below.

Write the correct number, i-x, in boxes 28-33 on your answer sheet

List of headings

i. The origin of serendipity
ii. Horace Walpole's fairy tale
iii. Arguments against serendipity
iv. Two basic knowledge in the paradox of scientific discovery
v. The accidental evidences in and beyond science
vi. Opponents of authority
vii. Accident and mental preparation
viii. Planned research and anticipated outcome
ix. The optimum balance between the two extremes

28 Paragraph A

29 Paragraph B

30 Paragraph C

31 Paragraph D

32 Paragraph E

33 Paragraph F

Questions 34-36

Complete the summary below，using ***NO MORE THAN TWO WORDS*** from the Reading Passage for each answer.

Write your answers in boxes 34-36 on your answer sheet.

The word 'serendipity' was coined in the writing of 34 _____ to Horace Mann. He derived it from a 35 _____ , the characters of which were always making fortunate discoveries by accident. The stem Serendip was a former name for 36 _____

Questions 37-40

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

Write the correct letter in boxes 37-40 on your answer sheet.

37 What does'inductivism' mean in paragraph A?

A observation without anticipation at the beginning

B Looking for what you want in the premise

C The expected discovery

D The map we pursued

38 Scientific discovery should

A be much of accidental aspect

B be full of value

C be between the two extremes

D be sceptical

39 The writer mentions Luigi Galvani's observation to illustrate

A the cruelty of frog's dissection

B the happy accident in scientific discovery

C the practice of scientists

D the rigid research planning

40 Why does the writer mention the example in Yosemite Valley in paragraph G?

A To illustrate the importance of a systematic plan

B To illustrate the conflict between reality and expectation

C To illustrate the original anticipation

D To illustrate the intention of social action

Sir Francis Ronalds and Telegraph

A RONALDS, Sir FRANCIS (1788-1873), inventor of the electric telegraph and meteorologist (气象学家),son of Francis Ronalds, a London merchant, and of his wife, Jane, daughter of William Field, was born in London on 21 Feb. 1788. Ronalds was educated at a private school at Cheshunt by the Rev. E. Cogan. At an early age he displayed a taste for experiment, and he acquired great skill later in practical mechanics and draughtsmanship. Under the influence of Jean Andre de Luc (1727-1817), whose acquaintance he made in 1814, he began to devote himself to practical electricity. In 1814 and 1815 he published several papers on electricity in Tilloch's 'Philosophical Magazine,'one of which records an ingenious use of De Luc's 'electric column' as a motive power for a clock.

B Ronalds's name is chiefly remembered as the inventor of an electric telegraph. Since 1753, when the first proposal for an electric telegraph worked by statical electricity (静电) was made by a writer signing 'C. M.' (said to be Charles Morrison) in the 'Scots Magazine', successive advances had been made abroad by Volta, Le Sage, Lomond, Cavallo, Salva, and others; but much was needed to perfect the invention.

C In 1816 Francis Ronalds, then living at Upper Mall, Hammersmith, built in his back garden two frames to accommodate eight miles of wire for his new invention of an electrostatic telegraph. It used clockwork-driven rotating dials (轮盘),engraved with letters of the alphabet and numbers, synchronised (同步的) with each other, at both ends of the circuit. For the past three or four years, encouraged by the octogenarian Swiss meteorologist, Jean Andre De Luc, Ronalds had been enthusiastically experimenting with electrostatic clockwork (发条) devices. When someone desired to send a message he earthed the wire at his end at the moment when the dial indicated the desired letter. At the receiving end the pith balls would fall together when earthed and the recipient noted the letter showing on his dial at that moment. The system was slow and depended on the two dials staying in step, but Ronalds successfully transmitted

and received letters over 150 metres of wire ; later he succeeded in sending messages through eight miles of iron wire suspended (悬浮) above his garden in London.

D After sending messages along his wires on the frame (木架子) ,he developed another version in which the wires were enclosed in glass tubes buried in the ground. At each end of the line a clockwork mechanism turned synchronously revolving discs with letters on them. A frictional-electricity machine kept the wire continuously charged, while at each end two pith balls hung from the wire on silk threads, and since they were similarly charged from the wire they stayed apart. Ronalds's instrument was of real practical use, and the brilliant idea of using synchronously rotating discs, now employed in the Hughes printing apparatus (装置) , was entirely his own. The only defect in his invention was the comparative slowness with which a succession of symbols could be transmitted.

E With communications between London and Portsmouth in mind, he believed his telegraph would work over distances of 800km. In the same year, Ronalds wrote to offer his invention to the Admiralty (海 军 部) .In fact, in 1806, Ralph Wedgwood submitted a telegraph based on frictional electricity to the Admiralty, but was told that the semaphore was sufficient for the country. In a pamphlet (小册子) he suggested the establishment of a telegraph system with public offices in different centres. Francis Ronalds, in 1816, brought a similar telegraph of his invention to the notice of the Admiralty, and was politely informed that 'telegraphs of any kind are now wholly unnecessary.' John Barrow, Secretary to the Admiralty, replied that "Telegraphs of any kind are now wholly unnecessary; and no other than the one now in use will be adopted." (The one in use was a semaphore system (旗语系统) . Only a year

after the end of the Napoleonic Wars, the Admiralty saw no need for improved communications, even though the semaphore was usable only in daylight and good weather.

F After this disappointment, Ronalds set off for the continent. He travelled throughout Europe and the Eastern Mediterranean, taking notes, sketching and collecting scientific books between 1816 and 1823. He had begun collecting his large library of works on electricity and kindred subjects. The last activity formed the beginnings of the Ronalds Library, left in trust to the IEE (now the IET) after his death. In a small pamphlet published in 1823, Ronalds described his invention and listed some of its possible uses, "Why should not government govern at Portsmouth almost as promptly as in Downing Street (唐宁街)? Why should our defaulters (爽约者) escape by default of our foggy climate? Let us have Electrical Conversazione offices communicating with each other all over the kingdom if we can." In 1825 he invented and patented a perspective tracing instrument (描摹工具),intended to facilitate drawing from nature, which he improved about 1828, and described in a work called' Mechanical Perspective.' These instruments seem to be the only ones for which he took out patents.

G However, Ronalds never patented his invention in electric telegraph. Ronalds seems to have made few or no practical contributions to science. In the meanwhile, one person did benefit from this work-Charles Wheatstone who saw the telegraph as a boy. When Charles Wheatstone was quite a child, his father had seen the Ronalds telegraph at work. Later, The invention of an electric telegraph had been marvellously developed by Wheatstone, who had seen many of the Hammersmith experiments, in conjunction with Mr. William Fothergill Cooke, and

these two men together devised and patented in 1837 the first electric telegraph used publicly and commercially (商业上地) in England. When, in 1855, a controversy arose between Wheatstone and Cooke with regard to their respective shares in the invention, Wheatstone at once acknowledged his direct debt to Ronalds, and Cooke, though less fully, acknowledged the priority of Ronalds's work; Until 1855 Ronalds's share in the invention had been forgotten by the public.

H Early in 1843 Ronalds was made honorary director and superintendent of the Meteorological Observatory, which was then established at Kew by the British Association for the Advancement of Science. He began work on a system for registering meteorological data using photography and this time was awarded a grant to continue his work. A similar system was developed independently by Charles Brooke, aided like Ronalds by grants from the Royal Society, had invented independently about this time. But the British Association confirmed Ronalds's priority. This was the beginning of automatic, accurate (准确的) recording of meteorological data and remained in use for some years after Ronalds's death.

I Ronalds lived long enough to see his prophecies (预 言) come to fruition and to receive belated official recognition: in 1870, three years before he died, he was knighted (授予骑士爵位) by Queen Elizabeth I, for his "early and remarkable labours in telegraphic investigations."

Question 27-31

matching the each correct year to the historical event in the passage, and write the correct Answer into box of 27-31 in the answer sheet

A 1753	B 1806	C 1816	D 1823
E 1825	F 1837	G 1843	

27 When did Francis Ronalds achieve a satisfactory result in the electricity experiment conducted first time

28 When was the first proposal of an electric telegraph based on static electricity

29 When did Ronalds get patent of his invention firstly

30 Ronalds first made it known and revealed the applicable significance of his telegram to public.

31 The contribution being done by Ronalds' invention in meteorological data

Question 32-35

Answer the questions below.

Choose NO MORE THAN FOUR WORDS AND/OR A NUMBER from the passage for each answer. Write your answers in boxes 32-35 on your answer sheet.

32 What were carved in the experimental dials when doing Ronalds' experiment his in garden?

33 What were enclosed with the buried telegram wires when Ronalds did the improved experiment?

34 What is the greatest distance Ronalds believed his telegram can send?

35 What kind of power supplied to keeping the wire charged continuously

Question 36-40

The passage has paragraphs as A-I; which paragraph contains the following information? Write the appropriate letter A-I for box 36-40 on your answer sheet.

36 There is a commercial use of the telegram.

37 There is a contributory influence on Ronalds from a fellow he got to know.

38 Ronalds's proposal was rejected as the preceding reference to another application.

39 There existed a drawback of Ronalds's telegram.

40 Ronalds's contribution in telegraphic investigations was recoginised by authority.

Success of Bluetooth wireless technology

A It was born amid a blaze of hype at the height of the dotcom boom, but initially failed to thrive. Indeed, Bluetooth, a short-range wireless technology used to interconnect portable devices, has been declared dead on many occasions. Early versions of the technology suffered from compatibility problems; an ambitious demonstration of the technology at a trade show in 2001 failed to work. And while Bluetooth struggled despite all the hype from its backers, another wireless technology, Wi-Fi, took off on its own. Obituaries of Bluetooth have appeared many times in the technology press, usually attributing its demise to the success of Wi-Fi. "Bluetooth is in full retreat," declared Sean Maloney, an Intel executive, in 2001. "Bluetooth is dead," said Craig Mathias, an analyst at the Farpoint Group, in 2003. Other analysts issued similar verdicts.

B But reports of the death of Bluetooth proved to be premature: today it is in rude health. Sales of Bluetooth devices more than doubled in 2005 to reach 320m units, and the figure is expected to exceed 520m this year~equivalent to more than 10m units a week and far outstripping sales of Wi-Fi chips, for those who insist on the comparison. Around one in four mobile phones sold now support Bluetooth. And after years of insisting that Bluetooth was more than just a way to link a wireless headset to a mobile phone, its backers seem to have been vindicated, as other uses for Bluetooth have at last begun to emerge. Last year 60% of Bluetooth chips went into mobile handsets and 15% into wireless headsets, says Scott Smyser of iSuppli, a market-research firm, but the other 25% went into other devices, from laptop computers, keyboards and mice to Bluetooth-enabled clothing.

C This success, after its rocky start, is due to a combination of factors, says Stuart Carlaw, an analyst at ABIResearch. In many countries Bluetooth's fortunes were boosted by new legislation banning the use of mobile phones without a hands-free kit while driving. This prompted many people to buy Bluetooth headsets. Several carmakers, led by Audi, also began to incorporate

microphones and speakers, capable of connecting to a handset via Bluetooth, into their vehicles. As consumers became more aware of Bluetooth and began to ask for it, handset-makers started to include it as a means of differentiating their products and increasing their margins. Adding a Bluetooth chip to a phone now costs very little—around $2, says Mr Carlaw, down from $20 in 2001-but allows the manufacturer to increase the price of the handset by far more, and opens up a new market for high-margin accessories. Finally, operators began offering Bluetooth headsets (typically end-of-line products that cost very little) as incentives to new customers. Again, the perceived value of the headset is far higher than its cost to the operator, so this increases margins.

D Greater adoption has, in turn, cleared the way for the inclusion of Bluetooth in all kinds of new products. In addition to Bluetooth-enabled jackets, motorcycle helmets and sunglasses with built-in wireless headsets, the controllers for two next-generation video-games consoles due to be launched later this year, Sony's PlayStation 3 and Nintendo's Wii, will use Bluetooth. Because Bluetooth is an industry standard, both console-makers can buy chips and software off the shelf, which is quicker and cheaper than developing their own proprietary technologies, says Mr Carlaw. Other new applications include stereo wireless headphones for use with MP3playersApple is rumoured to be working on a Bluetooth iPod—and connecting MP3players to in-car stereo systems via Bluetooth. "Bluecasting", the beaming of information to handsets from Bluetooth-enabled posters, once a science-fiction scenario, has also become feasible, now that a large proportion of consumers have Bluetooth-capable phones.

E In March the Bluetooth Special Interest Group, the not-for-profit body that promotes and directs the development of the technology,announced that version 3.0 of Bluetooth would be based on ultrawideband radio technology,

which allows for data-transfer rates hundreds of times faster than is possible today. "This will open up completely new application areas from 2008," says Alan Woolhouse of Cambridge Silicon Radio, a British company that is the leading manufacturer of Bluetooth chips. Higher data rates will, for example, make it possible to transfer music to MP3players, or beam photographs or video from digital cameras to televisions, without using wires.

F All of which provides a valuable lesson about the nature of standards wars. Too often such fights are portrayed as "winner-take-all" contests in which only one victor can emerge. This makes for more exciting headlines, but very few standards battles (the fight over high-definition video-disc formats springs to mind) are actually like this. Supposedly rival technologies often end up coexisting and serving different needs, as happened with Wi-Fi and Bluetooth. "I don't think they were ever really on the same battlefield," declares Mr Carlaw. "We see them as complementary—they do different things," says Mr Woolhouse. "It's horses for courses."

G Although declarations of the death of Bluetooth have now subsided, there is no shortage of predictions that other technologies are doomed. Wi-Fi and WiMax, some people believe, fatally undermine the case for third-generation (3G) mobile networks; ever-more-elaborate smartphones are, it is frequently predicted, turning into "iPod killers" or "BlackBerry killers"; and the proponents of software-as-a-service, delivered via the web as a subscription service, say it will wipe out traditional software. But the lesson of Bluetooth's quiet success is that such predictions should be taken with a grain of salt. In each case, coexistence is more likely than an outright victory for any single approach. Remember that next time someone declares one new technology to be dead at the hands of another.

Questions 14-18

The reading Passage has seven paragraphs A-G.

Which paragraph contains the following information?

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

14 Mobile phone earned increasing profit

15 Pessimistic prediction on bluetooth

16 Wide application assured success

17 Assumption proved wrong

18 Every technology has its own advantage

19 Inspiring news on fast transfer speed

Questions 20-22

Choose ***THREE*** correct letter

Write your answers in boxes 20-22 on your answer sheet.

What is the reasons that make bluetooth successful? please choose ***THREE*** reasons mentioned in this passage.

A Motor makers provide free platform for bluetooth

B Legislation forbids hand use of mobile when driving

C Bluetooth headsets are given free to customers

D Bluetooth installation cost little while profit enlarged

E Variety of application guarantees its expansion

F MP3players transfer data faster than ipod player.

Questions 22-25

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 22-25 on your answer sheet.

Attractive headlines usually technological product as 22_____competition. Unfortunately, several competitors would be 23_____ rather than happened like this. Nevertheless, negative predictions still exist about some technology's disappearance. For example, they insist that Wi-Fi and WiMax pose destructive threat to mobile networks of 24_____, or popular 25_____ would be the terminator to ipod or blackberry. However, lessons from bluetooth indicate that they are " horses for course".

The Beginning of Football!

A Football as we now know it developed in Britain in the 19th century, but the game is far older than this. In fact, the term has historically been applied to games played on foot, as opposed to those played on horseback, so 'football' hasn't always involved kicking a ball. It has generally been played by men, though at the end of the 17th century, games were played between married and single women in a town in Scotland. The married women regularly won.

B The very earliest form of football for which we have evidence is the 'tsu'chu1, which was played in China and may date back 3,000 years. It was performed in front of the Emperor during festivities to mark his birthday. It involved kicking a leather ball through a 30-40cm opening into a small net fixed onto long bamboo canes — a feat that demanded great skill and excellent technique.

C Another form of the game, also originating from the Far East, was the Japanese 'kemari' which dates from about the fifth century and is still played today. This is a type of circular football game, a more dignified and ceremonious experience requiring certain skills, but not competitive in the way the Chinese game was, nor is there the slightest sign of straggle for possession of the ball. The players had to pass the ball to each other, in a relatively small space, trying not to let it touch the ground.

D The Romans had a much livelier game, 'harpastum'. Each team member had his own specific tactical assignment, and the crowds of spectators took a noisy interest in the proceedings and the score. The role of the feet was so small as scarcely to be of consequence. The game remained popular for 700 or 800 years, but, although it was taken to England, it is doubtful whether it can be considered as a forerunner of contemporary football.

E The game that flourished in Britain

from the 8th to the 19th centuries was substantially different from all the previously known forms-more disorganised, more violent, more spontaneous and usually played by an indefinite number of players. Frequently, the games took the form of a heated contest between whole villages. Kicking opponents was allowed, as in fact was almost everything else.

F There was tremendous enthusiasm for football, even though the authorities repeatedly intervened to restrict it, as a public nuisance. In the 14th and 15th centuries, England, Scotland and France all made football punishable by law, because of the disorder that commonly accompanied it, or because the well-loved recreation prevented subjects from practising more useful military disciplines. None of these efforts had much effect.

G The English passion for football was particularly strong in the 16th century, influenced by the popularity of the rather better organised Italian game of 'calcio '. English football was as rough as ever, but it found a prominent supporter in the school headmaster Richard Mulcaster. He pointed out that it had positive educational value and promoted health and strength. Mulcaster claimed that all that was needed was to refine it a little, limit the number of participants in each team and, more importantly, have a referee to oversee the game.

H The game persisted in a disorganised form until the early 19th century, when a number of influential English schools developed their own adaptations. In some, including Rugby School, the ball could be touched with the hands or carried; opponents could be tripped up and even kicked. It was recognised in educational circles that, as a team game, football helped to develop such fine qualities as loyalty, selflessness, cooperation, subordination and deference to the team spirit. A 'games cult' developed in schools, and some form of football became an obligatory part of the curriculum.

I In 1863, developments reached a climax. At Cambridge University, an initiative began to establish some uniform standards and rules that would be accepted by everyone, but there were essentially two camps: the minority—Rugby School and some others-wished to continue with their own form of the game, in particular allowing players to carry the ball. In October of the same year, eleven London clubs and schools sent representatives to establish a set of fundamental rules to govern the matches played amongst them. This meeting marked the birth of the Football Association.

J The dispute concerning kicking and tripping opponents and carrying the ball was discussed thoroughly at this and subsequent meetings, until eventually, on 8 December, the die-hard exponents of the Rugby style withdrew, marking a final split between rugby and football. Within eight years, the Football Association already had 50 member clubs, and the first football competition in the world was started-the FA Cup.

Questions 1-7

Reading Passage 1 has ten paragraphs A-J.

Choose the correct headings for paragraphs D-J from the list of headings below.

Write the correct number i-x in boxes 1-7 on your answer sheet.

List of Headings

i	Limited success in suppressing the game
ii	Opposition to the role of football in schools
iii	A way of developing moral values
iv	Football matches between countries
v	A game that has survived
vi	Separation into two sports
vii	Proposals for minor improvements
viii	Attempts to standardise the game
ix	Probably not an early version of football
x	A chaotic activity with virtually no rules

Example Paragraph C Answer v

1 Paragraph D

2 Paragraph E

3 Paragraph F

4 Paragraph G

5 Paragraph H

6 Paragraph I

7 Paragraph J

Questions 8-13

Complete each sentence with the correct ending A-l from the box below. Write the correct letter A-F in boxes 8-13 on your answer sheet.

A was seen as something to be encouraged in the young.
B involved individual players having different responsibilities.
C was influenced by a game from another country.
D was a cooperative effort by all the players.
E distracted people from more important activities.
F was played by teams of a fixed size.
G was less popular than it later became.
H was often played by one community against another.
I formed part of a celebration.

8 Tsu'chu

9 Kemari

10 Harpastum

11 From the 8th to the 19th centuries, football in the British Isles

12 In the past, the authorities legitimately despised the football and acted on the belief that football

13 When it was accepted in academic settings, football

The History of Tea

A The story of tea began in ancient China over 5,000 years ago. According to the legend, Shen Nung, an early emperor was a skilled ruler, creative scientist and patron of the arts. His far-sighted edicts required, among other things, that all drinking water be boiled as a hygienic precaution. One summer day while visiting a distant region of his realm, he and the court stopped to rest. In accordance with his ruling, the servants began to boil water for the court to drink. Dried leaves from the nearby bush fell into the boiling water, and a brown liquid was infused into the water. As a scientist, the emperor was interested in the new liquid, drank some, and found it very refreshing. And so, according to legend, tea was created.

B Tea consumption spread throughout the Chinese culture reaching into every aspect of the society. In 800 A.D. Lu Yu wrote the first definitive book on tea, the Ch'aChing. This amazing man was orphaned as a child and raised by scholarly Buddhist monks in one of China's finest monasteries. Patronized by the Emperor himself, his work clearly showed the Zen Buddhist philosophy to which he was exposed as a child. It was this form of tea service that Zen Buddhist missionaries would later introduce to imperial Japan.

The first tea seeds were brought to Japan by the returning Buddhist priest Yeisei, who had seen the value of tea in China in enhancing religious mediation. As a result, he is known as the "Father of Tea" in Japan. Because of this early association, tea in Japan has always been associated with Zen Buddhism. Tea received almost instant imperial sponsorship and spread rapidly from the royal court and monasteries to the other sections of Japanese society.

C Tea was elevated to an art form resulting in the creation of the Japanese Tea Ceremony ("Cha-no-yu" or "the hot water for tea"). The best description of this complex art form was probably written by the Irish-Greek journalist-historian Lafcadio Hearn, one of the few foreigners ever to be granted Japanese citizenship during this era. He wrote from personal observation, "The Tea ceremony requires years of training and practice to graduate in art...yet the

whole of this art, as to its detail, signifies no more than the making and serving of a cup of tea. The supremely important matter is that the act be performed in the most perfect, most polite, most graceful, most charming manner possible". Such a purity of form, of expression prompted the creation of supportive arts and services. A special form of architecture (chaseki) developed for "tea houses", based on the duplication (复制) of the simplicity of a forest cottage. The cultural/artistic hostesses of Japan, the Geishi, began to specialize in the presentation of the tea ceremony. As more and more people became involved in the excitement surrounding tea, the purity of the original Zen concept was lost. The tea ceremony became corrupted, boisterous and highly embellished. "Tea Tournament" were held among the wealthy where nobles competed among each other for rich prizes in naming various tea blends. Rewarding winners with gifts of silk, armor, and jewelry was totally alien to the original Zen attitude of the ceremony.

Three great Zen priests restored tea to its original place in Japanese society. One of them is Sen-no Rikkyu (1521-1591)-priest who set the rigid standards for the ceremony, largely used intact today. Rikyo was successful in influencing the Shogun Toyotomi Hideyoshi, who became Japan's greatest patron of the "art of tea". A brilliant general, strategist, poet, and artist this unique leader facilitated the final and complete integration of tea into the pattern of Japanese life. So complete was this acceptance, that tea was viewed as the ultimate gift, and warlords paused for tea before battles.

D While tea was at this high level of development in both Japan and China, information concerning this then unknown beverage began to filter back to Europe. Earlier caravan (旅行队) leaders had mentioned it, but were unclear as to its service format or appearance. (One reference suggests the leaves be

boiled, salted, buttered, and eaten) The first European to personally encounter tea and write about it was the Portuguese Jesuit Father Jasper de Cruz in 1560. Portugal, with her technologically advanced navy, had been successful in gaining the first right of trade with China. It was as a missionary on that first commercial mission that Father de Cruz had tasted tea four years before.

The Portuguese developed a trade route by which they shipped their tea to Lisbon, and then Dutch ships transported it to France, Holland, and the Baltic countries. (At that time Holland was politically affiliated with Portugal. When this alliance was altered in 1602, Holland, with her excellent navy, entered into full Pacific trade in her own right.)

E Because of the success of the Dutch navy in the Pacific, tea became very fashionable in the Dutch capital, the Hague. This was due in part to the high cost of the tea (over $100 per pound) which immediately made it the domain of the wealthy.

F Slowly, as the amount of tea imported increased, the price fell as the volume of sale expanded. Initially it was available to the public in apothecaries along with such rare and new spices as ginger and sugar, and by 1675 it was available in common food shops throughout Holland. As the consumption of tea increased dramatically in Dutch society, doctors and university authorities argued back and forth as to the negative and/or positive benefits of tea. Known as "tea heretics", the public largely ignored the scholarly debate and continued to enjoy their new beverage though the controversy lasted from 1635 to roughly 1657. Throughout this period France and Holland led Europe in the use of tea.

G As the craze for things oriental swept Europe, tea became part of the way of life. The social critic Marie de Rabutin-Chantal, the Marquise de Steven makes the first mention in 1680 0f adding milk to tea. During the same period, Dutch inns provided the first restaurant service of tea. Tavern owners would furnish guests with a portable tea set complete with a heating unit. The independent Dutchman would then prepare tea for himself and his friends outside in the tavern's garden. Tea remained popular in France for only about fifty years, being replaced by a stronger preference for wine, chocolate, and exotic coffees.

Great Britain was the last of the three great sea-faring nations to break into the Chinese and East Indian trade routes. This was due in part to the unsteady ascension to the throne of the Stuarts and the Cromwellian Civil War. The first samples of tea reached England between 1652 and 1654. Tea quickly proved popular enough to replace ale as the national drink of England.

As in Holland, it was the nobility that provided the necessary stamp of approval and so insured its acceptance. King Charles II had married, while in exile, the Portuguese Infanta Catherine de Braganza (1662). Charles himself had grown up in the Dutch capital. As a result, both he and his Portuguese bride were confirmed tea drinkers. When the monarchy was re-established, the two rulers brought this foreign tea tradition to England with them.

H Imperial Russia was attempting to engage China and Japan in trade at the same time as the East Indian Company. The Russian interest in tea began as early as 1618 when the Chinese embassy in Moscow presented several chests of tea to Czar Alexis. By 1689 the Trade Treaty of Newchinsk established a common border between Russia and China, allowing caravans to then cross back and forth freely. Still, the journey was not easy. The trip was 11,000 miles long and took over sixteen months to complete. The average caravan consisted of 200 t0 300 camels. As a result of such factors, the cost of tea was initially prohibitive and available only to the wealthy. By the time Catherine the Great died (1796), the price had dropped some, and tea was spreading throughout Russian society.

Question 1-8

Reading passage l has eight paragraphs, A-H

Choose the correct heading for paragraphs A–H from the list of headings below. Write the correct number, i-x, in boxes 1-8 0n your answer sheet.

List of Headings

i. Good or bad of tea
ii. Tea ritual
iii. Difficulties of import
iv. Religious objection of tea
v. A chance discovery
vi. In and out of fashion
vii. A luxury thing
viii. A connection between tea and religion
ix. Shortage of supply
x. News of tea going to new continent

1 Paragraph A
2 Paragraph B
3 Paragraph C
4 Paragraph D
5 Paragraph E
6 Paragraph F
7 Paragraph G
8 Paragraph H

Questions 9-13

Use the information in the passage to match the country (listed A-G) with statements below. Write the appropriate letters A-G in boxes 9-13 0n your answer sheet.

A France
B Holland
C Japan
D China
E Britain
F Russia
G Portugal

9 house designed particularly for tea drinking

10 tea being substituted after a short period

11 using animals for tea transportation

12 popularity of tea despite of some dispute

13 favor of tea for ruler's specialised knowledge

The origin of ancient writing

A The Sumerians, an ancient people of the Middle East, had a story explaining the invention of writing more than 5,000 years ago. It seems a messenger of the King of Uruk arrived at the court of a distant ruler so exhausted that he was unable to deliver the oracle message. So the king set down the words of his next messages on a clay tablet. A charming story, whose retelling at a recent symposium at the University of Pennsylvania amused scholars. They smiled at the absurdity of a letter which the recipient would not have been able to read.

B They also doubted that the earliest writing was a direct, rendering of speech. riting more likely began as a separate, symbolic system of communication and only later merged with spoken language.

C Yet in the story the Sumerians, who lived in Mesopotamia, in what is ow southern Iraq, seemed to understand writing's transforming function. s Dr Holly Pittman, director of the University's Center for Ancient Studies, bserved, writing "arose out of the need to store and transmit information...over time and space".

D In exchanging interpretations and information, the scholars acknowledged that they still had no fully satisfying answers to the questions of how and why writing developed. Many favoured an explanation of writing's origins in the visual arts, pictures becoming increasingly abstract and eventually representing spoken words. Their views clashed with a widely held theory among archaeologists that writing developed from the pieces of clay that Sumerian accountants used as tokens to keep track of goods.

E Archaeologists generally concede that they have no definitive answer to the question of whether writing was invented only once, or arose independently in several places, such as Egypt, the Indus Valley, China, Mexico and Central America. The preponderance of archaeological data shows that the urbanizing Sumerians were the first to develop writing, in 3,200 or 3,300 BC. These are the dates for many clay tablets in an early form of cuneiform, a script written by pressing the end of a sharpened stick into wet clay, found at the site of the

ancient city of Uruk. The baked clay tablets bore such images as pictorial symbols of the names of people, places and things connected with government and commerce. The Sumerian script gradually evolved from the pictorial to the abstract, but did not at first represent recorded spoken language.

F Dr Peter Damerow, a specialist in Sumerian cuneiform at the Max Planck Institute for the History of Science in Berlin, said, It is likely that there were mutual influences of writing systems around the world. However, their great variety now shows that the development of writing, once initiated, attains a considerable degree of independence and flexibility to adapt to specific characteristics of the sounds of the language to be represented. Not that he accepts the conventional view that writing started as a representation of words by pictures. New studies of early Sumerian writing, he said, challenge this interpretation. The structures of this earliest writing did not, for example, match the structure of spoken language, dealing mainly in lists and categories rather than in sentences and narrative.

G For at least two decades, Dr Denise Schmandt-Besserat, a University of Texas archaeologist, has argued that the first writing grew directly out of a system practised by Sumerian accountants. They used clay tokens, each one shaped to represent a jar of oil, a container of grain or a particular kind of livestock. These tokens were sealed inside clay spheres, and then the number and type of tokens inside was recorded on the outside using impressions resembling the tokens. Eventually, the token impressions were replaced with inscribed signs, and writing had been invented.

H Though Dr Schmandt-Besserat has won much support, some linguists question her thesis, and others, like Dr Pittman, think it too narrow. They

emphasis that pictorial representation and writing evolved together. 'There's no question that the token system is a forerunner of writing'. Dr Pittman said, but I have an argument with her evidence for a link between tokens and signs, and she doesn't open up the process to include picture making.

I Dr Schmandt-Besserat vigorously defended her ideas. 'My colleagues say that pictures were the beginning of writing', she said, 'but show me a single icture that becomes a sign in writing. They say that designs on pottery were the beginning of writing, but show me a single sign of writing you can trace back to a pot — it doesn't exist'. In its first 500 years, she asserted, cuneiform writing was used almost solely for recording economic information, and after that its uses multiplied and broadened.

J Yet other scholars have advanced different ideas. Dr. Piotr Michalowski, Professor of Near East Civilizations at the University of Michigan, said that the proto-writing of Sumerian Uruk was 'so radically different as to be a complete break with the past'. It no doubt served, he said, to store and communicate information, but also became a new instrument of power. Some scholars noted that the origins of writing may not always have been in economics. In Egypt, most early writing is high on monuments or deep in tombs. In this case, said Dr Pascal Vernus from a university in Paris, early writing was less administrative than sacred. It seems that the only certainty in this field is that many questions remain to be answered.

Questions 27-30

Choose the correct letter A, B, C or D

27 The researchers at the symposium regarded the story of the King of Uruk as ridiculous because

A writing probably developed independently of speech.

B clay tablets had not been invented at that time.

C the distant ruler would have spoken another language.

D evidence of writing has been discovered from an earlier period.

28 According to the writer, the story of the King of Uruk

A is a probable explanation of the origins of writing.

B proves that early writing had a different function to writing today.

C provides an example of symbolic writing.

D shows some awareness amongst Sumerians of the purpose bf writing.

29 There was disagreement among the researchers at the symposium about

A the area where writing began.

B the nature of early writing materials.

C the way writing began.

D the meaning of certain abstract images.

30 The opponents of the theory that writing developed from tokens believe that it

A grew out of accountancy.

B evolved from pictures.

C was initially intended as decoration.

D was unlikely to have been connected with commerce.

Questions 31-36

Look at the following statements (Questions 31-36) and the list of people below. Match each statement with the correct person, A-E.

Write the correct letter, A-E, in boxes 31-36 on your answer sheet.

NB You may use any letter more than once.

List of People

A Dr Holly Pittman
B Dr Peter Damerow
C Dr Denise Schmandt-Besserat
D Dr Piotr Michalowski
E Dr Pascal Vernus

31 There is no proof that early writing is connected to decorated household objects.

32 As writing developed, it came to represent speech.

33 Sumerian writing developed into a means of political control.

34 Early writing did not represent the grammatical features of speech.

35 There is no convincing proof that tokens and signs are connected.

36 The uses of cuneiform writing were narrow at first, and later widened.

Questions 37-40

Complete the summary using the list of words, A-N, below.

Write the correct letter, A-N, in boxes 37-40 on your answer sheet

The earliest form of writing

Most archaeological evidence shows that the people of _____ 37 invented writing in around 3,300 BC. Their script was written on _____ 38 and was called _____ 39 Their script originally showed images related to political power and business, and later developed to become more 40 _____

A cuneiform	B pictorial	C tomb walls
D urban	E legible	F stone blocks
G simple	H Mesopotamia I abstract	J papyrus sheets
K decorative	L clay tablets Uruk	M Egypt

The Tunguska Mystery

A June 30,1908, 7:14 a.m., central Siberia—Semen Semenov, a local farmer, saw "the sky split in two. Fire appeared high and wide over the forest... From... where the fire was, came strong heat....Then the sky shut closed, and a strong thump sounded, and I was thrown a few yards.... After that such noise came, as if ... cannons were firing, the earth shook ..." Such is the harrowing (痛苦的) testimony (证词)of one of the closest eyewitnesses to what scientists call the Tunguska event, the largest impact of a cosmic body to occur on the earth during modern human history. Semenov experienced a raging conflagration some 65 kilometers (40 miles) from ground zero, but the effects of the blast rippled out far into northern Europe and Central Asia as well. Some people saw massive, silvery clouds and brilliant, colored sunsets on the horizon, whereas others witnessed luminescent skies at night—Londoners, for instance, could plainly read newsprint at midnight without artificial lights. Geophysical observatories placed the source of the anomalous seismic and pressure waves they had recorded in a remote section of Siberia. The epicenter lay close to the river Podkamennaya Tunguska, an uninhabited area of swampy taiga forest that stays frozen for eight or nine months of the year.

B Ever since the Tunguska event, scientists and lay enthusiasts alike have wondered what caused it. Although most observers generally accept that some kind of cosmic body, either an asteroid or a comet, exploded in the sky above Siberia, no one has yet found fragments of the object or any impact craters in the affected region. The mystery remains unsolved, but our research team, only the latest of a steady stream of investigators who have scoured the area, may be closing in on a discovery that will change our understanding of what happened that fateful morning.

C Part of the enduring mystery of the Tunguska event harks back to the stark physical isolation of central Siberia and the political turmoil(政治动乱) that raged in Russia during the early 20th century, a time when the czarist empire (沙皇帝国) fell and the Soviet Union emerged. These two factors delayed

scientific field studies for nearly 20 years. Only in 1927 did an expedition led by Leonid Kulik, a meteorite specialist from the Russian was confronted with some almost unbelievable scenery. Amazingly, the blast had flattened millions of trees in a broad, butterfly-shaped swath (列痕) covering more than 2,000 square kilometers (775 square miles). Furthermore, the tree trunks had fallen in a radial pattern extending out for kilometers from a central area where "telegraph poles," (电线杆) alone stand of partially burned tree stumps, still remained. Kulik interpreted this ravaged landscape as the aftermath of an impact of an iron meteorite. He then began to search for the resulting crater or meteorite fragments.

D Kulik led three additional expeditions to the Tunguska region in the late 1920s and 1930s, and several others followed, but no one found clear-cut impact craters or pieces of whatever had hit the area. The dearth (缺乏) of evidence on-site gave rise to various explanatory hypotheses. In 1946, for instance, science-fiction writer Alexander Kazantsev explained the puzzling scene by positing a scenario in which an alien spacecraft had exploded in the atmosphere. Within a few years, the airburst theory gained scientific support and thereafter limited further speculation. Disintegration(瓦解) of a cosmic object in the atmosphere, between five and 10 kilometers above the surface, would explain most of the features investigators observed on the ground. Seismic observatory records, together with the dimensions of the devastation, allowed researchers to estimate the energy and altitude of the blast.

E The lack of an impact crater also suggested that the object could not have

been a sturdy iron meteorite but a more fragile object, such as a relatively rare, stony asteroid or a small comet. Russian scientists favored the latter hypothesis because a comet is composed of dust particles and ice, which would fail to produce an impact crater. Another explanation for the tumult (骚动) in the Tunguska region claimed that the destruction resulted from the rapid combustion of methane gas (沼气) released from the swampy ground into the air.

F In 1975 , Ari Ben-Menahem, a seismologist at the Weizmann Institute of Science in Rehovot,Israel, analyzed the seismic waves triggered by the Tunguska event and estimated that the energy released by the explosion was between 10 and 15 megatons in magnitude, the equivalent of 1,000 Hiroshima atomic bombs. Astrophysicists have since created numerical simulations of the Tunguska event to- try to decide among the competing hypotheses. The airburst of a stony asteroid is the leading interpretation.

G Models by Christopher F. Chyba, then at the NASA Ames Research Center, and his colleagues proposed in 1993 that the asteroid was a few tens of meters in diameter and that it exploded several kilometers above the ground. Comparison of the effects of nuclear test airbursts with the flattened pattern of the Tunguska forest seems to confirm this suggestion.

H More recent simulations by N. A. Artemieva and V. V. Shuvalov, both at the Institute for Dynamics of Geospheres in Moscow, have envisioned (想象的) an asteroid of similar size vaporizing (蒸发) five to 10 kilometers ab ove Tunguska. In their model, the resulting fine debris and a downward propagating (传播) gaseous jet then dispersed over wide areas in the atmosphere. These simulations do not,

however, exclude the possibility that meter-size fragments may have survived the explosion and could have struck the ground not far from the blast.

I Late last year Mark Boslough and his team at Sandia National Laboratories concluded that the Tunguska event may have been precipitated (沉淀) by a much smaller object than earlier estimates had suggested. Their supercomputer simulation showed that the mass of the falling cosmic body turned into an expanding jet of high-temperature gas traveling at supersonic speeds. The model also indicated that the impactor was first compressed by the increasing resistance of the earth's atmosphere. As the descending body penetrated1 (渗 透 ） deeper, air resistance probably caused it to explode in an airburst with strong flow of heated gas that was carried downward by its tremendous omentum （ 冲 力 ）. Because the fireball would have transported additional nergytoward the surface, what scientists had thought to be an explosion between 10 and 20 megatons was more likely only three to five megatons, according to Boslough. All this simulation work only strengthened (and continues to strengthen) our desire to conduct fieldwork at the Tunguska site.

Questions 1-6

The reading passage has seven paragraphs，A-I

Choose the correct heading for paragraphs A-F from the list below.

Write the correct number, i-ix, in boxes 1-6 on your answer sheet.

List of Headings

i. Specialists investigate the bizarre scene
ii. Model proved by atomic experiment
iii. Mystery remains for further explanation
iv. Terrifying description from witness
v. Rare clue arouses fantasy assumptions
vi. Some scientists assume the explosion never happened
vii. Meteorite theory is still a dominant explanation
viii. The Crater is hided in messy scene
ix. Scientific explanation for an untraceable crater

1 Paragraph A
2 Paragraph B
3 Paragraph C
4 Paragraph D
5 Paragraph E
6 Paragraph F

Questions 7-11

Use the information in the passage to match the people (listed A-I) with opinions or deeds below. Write the appropriate letters A-E in boxes 7-11 on your answer sheet.

NB you may use any letter more than once

A	Alexander Kazantsev
B	Christopher F. Chyba
C	Ari Ben-Menahem
D	Mark Boslough
E	Leonid Kulik

7 The traceless crater is due to explosion above ground.

8 Fictional depiction for Tunguska explosion.

9 Proposed a hypothesis of atomic quantity estimate.

10 Regarded messy scene caused by a meteorite.

11 The magnitude of the explosion is different from previous one.

Questions 12-13

Choose the TWO correct letters from following options.

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

Which TWO of the following statements are correct according to this passage?

A More recent simulations prove the previous model has flaws.

B Craters of explosion has not been found yet

C Semen Semenov is the only witness of Tunguska Event

D Hard evidence of simulation indicates unnecessary field research.

E Friction of atmosphere may lead to meteorite explosion

Western Immigration of Canada

A By the mid-1870s Canada wanted an immigrant population of agricultural settlers established in the West. No urban centres existed on the prairies in the 1870s, and rural settlement was the focus of the federal government's attention. Western rural settlement was desired, as it would provide homesteads for the sons and daughters of eastern farmers, as eastern agricultural land filled to capacity. As well, eastern farmers and politicians viewed western Canada, with its broad expanses of unpopulated land, as a prime location for expanding Canada's agricultural output, especially in terms of wheat production to serve the markets of eastern Canada.

B To bolster Canada's population and agricultural output, the federal government took steps to secure western land. The Dominion of Canada purchased Rupert's Land from the Hudson's Bay Company in 1870. In 1872, the federal government enacted the Dominion Lands Act. This act enabled settlers to acquire 160 acres of free land, as long as settlers remained on their land for a period of three years, made certain minor improvements to the land, and paid a $10.00 registration fee. The Canadian government also created a Mounted Police Force in 1873. The Mounties journeyed West to secure the area for future settlers. By 1876 the NWMP had established themselves in the West. The major posts included Swan River, Fort Saskatchewan, Fort Calgary, Fort Walsh and Fort Macleod. All of these initiatives attracted a number of eastern-Canadian settlers, as well as European and American immigrants, to Canada's West, and particularly to the area of Manitoba.

C The surest way to protect Canadian territory, and to achieve the secondary goal of joining British Columbia to the rest of the country, was to import large numbers of Eastern Canadian and British settlers. Settling the West also made imperative the building of a transcontinental railway. The railway would work to create an east-west economy, in which western Canada would feed the growing urban industrial population of the east, and in return become a market for eastern Canadian manufactured goods.

D Winnipeg became the metropolis of the West during this period. Winnipeg's growth before 1900 was the result of a combination of land speculation, growth of housing starts, and the federal government's solution in 1881 of Winnipeg as a major stop along the CPR. This decision culminated in a land boom between 1881 and 1883 which resulted in the transformation of hamlets like Portage la Prairie and Brandon into towns, and a large increase in Manitoba's population. Soon, Winnipeg stood at the junction of three transcontinental railway lines which employed thousands in rail yards. Winnipeg also became the major processor of agricultural products for the surrounding hinterland.

E The majority of settlers to Winnipeg, and the surrounding countryside, during this early period were primarily Protestant English-speaking settlers from Ontario and the British Isles. These settlers established Winnipeg upon a British-Ontarian ethos which came to dominate the society's social, political, and economic spirit. This British-Ontarian ethnic homogeneity, however, did not last very long. Increasing numbers of foreign immigrants, especially from Austria-Hungary and the Ukraine soon added a new ethnic element to the recent British, the older First Nation Metis, and Selkirk's settler population base. Settling the West with (in particular) Eastern Canadians and British immigrant offered the advantage of safeguarding the 49th parallel from the threat of American take-over, had not the Minnesota legislature passed a resolution which provided for the annexation of the Red River district. The Red River in 1870 was the most important settlement on the Candian prairies. It contained 11,963 inhabitants of whom 9,700 were Metis and 575 First Nations. But neighbouring Minnesota already had a population of over 100,000.

F Not all of the settlers who came to western Canada in the 1880s, however desired to remain there. In the 1870s and 1880s, economic depression kept the value of Canada's staple exports low, which discouraged many from permanent settlement in the West. Countries including Brazil, Argentina, Australia, New Zealand and the United States competed with Canada for immigrants. Many immigrants, and thousands of Canadians, chose to settle in the accessible and attractive American frontier. Canada before 1891 has been

called "a huge demographic railway station" where thousands of men, women, and children were constantly going and coming, and where the number of departures invariably exceeded that of arrivals."

G By 1891 Eastern Canada had its share of both large urban centres and problems associated with city life. While the booming economic centres of Toronto and Montreal were complete with electricity and telephones in the cities1 wealthiest areas by the turn of the century, slum conditions characterised the poorest areas like the district known as 'the Ward' in Toronto. Chickens and pigs ran through the streets; privy buckets spilled onto backyards and lanes creating cesspools in urban slums. These same social reformers believed that rural living, in stark contrast to urban, would lead to a healthy, moral, and charitable way of life. Social reformers praised the ability of fresh air, hard work, and open spaces for 'Canadianizing' immigrants. Agricultural pursuits were seen as especially fitting for attaining this 'moral' and family-oriented way of life, in opposition to the single male-dominated atmosphere of the cities. Certainly, agriculture played an important part of the Canadian economy in 1891. One third of the workforce worked on farms.

H The Canadian government presented Canada's attractions to potential overseas migrants in several ways. The government offered free or cheap land to potential agriculturists. As well, the government established agents and/or agencies for the purpose of attracting emigrants overseas. Assisted passage schemes, bonuses and commissions to agents and settlers and pamphlets also attracted some immigrants to Canada. The most influential form of attracting others to Canada, however remained the letters home written by emigrants already in Canada. Letters from trusted friends and family members. Letters home often contained exaggerations of the 'wonder of the new world.' Migrant workers and settlers already in Canada did not want to disappoint, or worry, their family and friends at home. Embellished tales of good fortune and happiness often succeeded in encouraging others to come.

Questions 14-20

The reading passage has seven paragraphs, A-H

Choose the correct heading for paragraphs A-H from the list below.

Write the correct number, i-xi, in boxes 14-20 on your answer sheet.

List of Headings

i	Not all would stay in Canada forever
ii	Government's safeguard in the West
iii	Eastern Canada is full
iv	Built-up of the new infrastructure
v	British domination in community
vi	Ethnics and language make-up
vii	Pursing a pure life
viii	Police recruited from mid class families
ix	Demand of western immigration
x	First major urban development of the West
xi	Attracting urban environment
xii	Advertising of Western Canada

Example: Paragraph A ix

14 Paragraph B

15 Paragraph C

16 Paragraph D

17 Paragraph E

18 Paragraph F

19 Paragraph G

20 Paragraph H

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 on your answer sheet.

With the saturation of Eastern Canada, Western rural area would supply 21 _____ for the descendants of easterners. Politicians also declared that Western area got potential to increase 22 _____ of Canada according to 23 _____ crop that consumed in the East. Federal government started to prepare and made it happen. First, government bought a land from a private 24 _____ , and legally offered certain area to people who stayed for a qualified period of time. Then, a mounted 25 _____ was found to secure the land. However, the best way to protect citizens was to build a 26 _____ to transport the migrants and goods between the West and the East.

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

Computer Provides More Questions Than Answers 远古计算机

14-18

B H C A G

19-22

cargo vessel, A 段第 3 行

luxury items, B 段第 1 行

gearwheel, B 段第 6 行

analog computer C 段第 4 行

23-26

C E 段

B J 段

B F 段

A H 段

Timekeeper: Invention of Marine Chronometer 航海钟表发展

1. F
2. B
3. H
4. C
5. F
6. YES
7. NO
8. NOT GIVEN
9. home time
10. 2.8s
11. oil
12. sextant
13. marine chronometer

Mystery in Easter Island 复活节岛之谜

27. v

28. ii

29. iii

30. viii

31. NOT GIVEN

32. TRUE

33. FALSE

34. FALSE

35. NOT GIVEN

36. TRUE

37. growing population

38. racist assumption

39. archeological and historical

40. inhuman behavior

Revolutions in Mapping 地图的发展

14-21

A D B C C D C B

22. Egypt

23. monks

24. Ptolemy

25. (navigation) satellites

26. (some) cars

Serendipity:The Accidental Scientists 科学偶然性

28. iv 后面的选项内容保留，下面的也是这样

29. ix

30. i

31. v

32. iii

33. vii

34. Horace Walpole 定位在 C 段

35. fairy tale

36. Sri Lanka

37. A 首段末句

38. C

39. B

40. B

Sir Francis Ronalds and Telegraph 电报的发明

27-31

C A E D G

32. letters and numbers/alphabet and numbers

33. glass tubes

34. 800km

35. (a) frictional 一 electricity machine

36. G

37. A 原文见 A 段 Under the influence of Jean Andre de Luc whose acquaintance(熟悉的人)he made in 1814, he began to devote himself to practical electricity. 他开始投身研究应用电力研究

38. E 答案见 E 段，题干的意思是“Franklin 的新发明被 海军部拒绝了，因为海军已经使用了先前的一种系统 (preceding system) 一旗语系统 semaphore system; 先入为主，拒绝了他的新电报”

39. D 原文 D 段最后一句话，The only defect in his invention was.……

40. I he was knighted(授予骑士爵位))by Queen Elizabeth I

Success of Bluetooth wireless technology 蓝牙的成功

14-19

C

A

D

B

F

E

20-22

B

D

E

22-25

winner-take-all

coexisting

third-generation/3G

Smart phones

Tea and the Industrial Revolution 茶叶和工业革命

1. vi
2. v
3. ix
4. iv
5. viii
6. iii
7. vii
8. NOT GIVEN B 段倒二句
9. TRUE C 段
10. FALSE C 段末句
11. FALSE D 段
12. NOT GIVEN E 段
13. TRUE E 段

The beginning of football 足球起源

1. ix
2. x

3. i
4. vii
5. iii
6. viii
7. vi
8. I
9. D
10. B
11. H
12. E
13. A

The history of tea 茶叶历史

1. v
2. viii
3. ii
4. x
5. vii
6. i
7. vi
8. iii
9. C 定位 C 段
10. A 定位 G 段
11. F 定位 H 段
12. B 定位 F 段
13. D 定位 A 段

The origin of ancient writing 古代文字起源

27. A
28. D
29. C

30. B
31. C
32. B
33. D
34. B
35. A
36. C
37. H
38. L
39. A
40. I

The Tunguska mystery 通古斯之谜

1. iv
2. iii
3. i
4. v
5. ix
6. vii
7. B
8. A
9. C
10. E
11. D
12. B
13. E

Western immigration of Canada 加拿大西迁

14. ii,
15. iv,
16. x,

17. vi,
18. i,
19. vii,
20. xii
21. Homesteads
22. agricultural output
23. wheat
24. Company
25. Police Force
26. transcontinental railway