应用型本科“语言与翻译”系列丛书

INTERNATIONAL BUSINESS AND MECHANICAL & ELECTRICAL ENGINEERING ENGLISH

国际商务与机电英语

阅读和汉译

叶新 编

READING AND CHINESE TRANSLATION

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国际商务与机电英语

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内 容 提 要

本书通过英语这个语言工具，帮助学生学习国际商务知识、机电知识及机电英语汉译知识和技能，同时从学习中提高英语水平；通过机电英语阅读和汉译，强化机电英语知识及翻译技巧。

本书适合于英语专业本科三年级学生、已通过 CET－4 或有相应英语水平者，对希望了解国际商务环境下的机电英语及其汉译的读者也有很好的指导作用。

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国际商务与机电英语

——阅读和汉译

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序

随着我国对外开放的深入和全球一体化的发展，国际商务活动日益频繁。在此大背景下，机电行业的专业工作者发现，若要在本行业不断开拓进取，光有机电专业方面的知识还远远不够，他们亟须精通至少一门对外交流的通用外语，以期了解并熟悉本专业的现状、发展前景及相关国际商务知识。为了达到这个目的，作为国际性语言的英语自然成了大家的首选。对大多数机电工作者而言，读懂英语文献可以帮助他们解决工作中的相关难点，而将英语文献译成汉语则是他们帮助国内同行和其他读者学习国外先进经验的主要途径。本书主要着眼于机电英语阅读和汉译知识和技能，因此可以作为相关专业人员英汉翻译的参考资料，也可以作为高校机电专业学生的学习材料。

本书编者作为高校英语教师，充分利用自己在国际商务行业的工作经验和在机电专业高校的英语教学经验，将有关翻译理论、国际商务知识和机电专业英语结合起来，无疑是对机电专业英译汉理论和实践作了一种有益的探索。

任何专业的翻译都非易事，机电专业翻译对门外汉来说，更是异常艰难。尽管本书在许多方面都有待完善，但它也许能够抛砖引玉，起到整理国际商务环境下机电英语阅读与汉译的操作思路的作用，并对有一定英语基础的机电专业学生和有志于从事或关注涉外机电行业工作的人们有所帮助。

余建中

2011 年 2 月

前　言

本人作为高校英语教师，长期从事国际商务、机电英语及英语翻译技能方面的教学与研究。本书是结合本人教学的经验，根据高校机电专业和机电特色高校专业的特点，有的放矢编写而成的。

要搞好国际商务环境下的机电英语阅读与汉译，需要掌握英语知识、国际商务知识、机电知识、英汉翻译知识和技能。本书把这几种知识整合到一起，通过英语这个语言工具，帮助学生学习国际商务知识、机电知识及机电英语汉译知识和技能，同时从学习这些知识中提高英语水平；通过机电英语阅读和汉译，强化机电英语知识及其汉译知识和技能。

本书共分为8个单元，每个单元包含两大部分，第一部分介绍国际商务知识，第二部分为阅读与翻译，介绍机电英语知识的文章及翻译知识和技巧，在该部分根据所学英语汉译知识和技能，结合机电英语知识的文章，通过英语汉译练习，操练并熟悉机电英语汉译技能。书末附上了汉译文和练习答案、词汇表及主要参考文献。

本书按照每单元8学时、全书64学时的教学内容安排，可每周用2课时、分两个学期教学完，也可以每周用4课时、在一个学期内教学完。使用对象为英语专业本科三年级学生、已通过大学英语四级考试者或有相应英语水平者。本书对于希望了解国际商务环境下的机电英语及其汉译的人们也有很好的指导作用。

有关专家和学者审阅了本书，并提出了宝贵意见，特此表示感谢。

由于编者学养有限，疏漏之处在所难免，恳请读者及同行不吝赐教。

编　者

2011年2月

Contents

Unit 1

Preview

Part A International Business English

International Business

With the unswerving implementation of the reform and opening policies, China has successfully made international business become a household term in China, especially in its commercially developed areas. However, do you know what international business is since it has been frequently discussed and conducted in the increasingly integrated world including China? "International Business" briefly introduces what international business consists of, what measures a nation can take to gain and hold strong international trading and investment positions, what way companies can adopt to achieve competitive advantage as well as how important international business is.

Part B Mechanical and Electrical Engineering English

NC and CNC

In this passage, readers will have a general idea of what Numerical Control (NC) and Computerized Numerical Control (CNC) are.

Translation Principles

Different noted translation theorists at home and abroad proposed different translation principles, some of which have been influential so far like Yan Fu's

Triple Translation Principle, Liu Zhongde's Triple Translation Principle, Alexander Fraser Tytler's Three-point Translation Principle along with Eugene A. Nida's Functional Equivalence. These principles can offer guidance to those engaged in translation to do well in their work.

Translation Technique — Conversion of Parts of Speech

In order that one can be good at translation, a clear idea of translation principles is necessary. At the same time, a mastery of some practical translation techniques is also important. Conversion of parts of speech is one of those techniques. Specific examples have been taken from the passage "NC and CNC" for clarification and practice of this technique.

Part A

International Business English

International Business

International business consists of transactions that are devised and carried out across national borders to satisfy the objectives of individuals and organizations. These transactions take on various forms, which are often interrelated. The primary types of international business are export-import trade and foreign direct investment (FDI). The latter is carried out in varied forms including wholly owned subsidiaries and joint ventures. The additional types of international business are licensing, franchising, and management contracts.

Direct investment is mostly conducted by the 500 largest firms in the world; these firms account for the major part of all international trade. Thus the study of international business is heavily focused on the activities of large multinational enterprises (MNEs), most of which are the above-mentioned firms. MNEs are headquartered in one country but have operations in other countries. MNEs account for the majority of the world's investment and trade. So far MNEs alone have directly invested large amounts of money overseas to buy or create businesses. Another popular area of international

business activity has been the international joint venture, which is an agreement between two or more partners to own and control an overseas business.

International business is not limited to giant multinational enterprises. Many small and medium-sized businesses are also involved in this area. These include service industries. Traditionally economists have thought of services and small business as part of the non-trade sector. But today we live in a globally integrated business system. The information technology revolution and the advances in transportation mean that knowledge, skilled people, goods, and services are extremely mobile. The world is now a global village, where the producers of goods and services often compete both domestically and internationally.

In the case of international trade, people often think of exports and imports as physical goods like cars, shoes, food, but they also include services such as those provided by international airlines, cruise lines, reservation agencies, and hotels. Of course, the majority of export and import activity is in the area of manufacturing such as industrial machinery, computers, cars, televisions, VCRs, and other electronic goods. However, we will see an increasing proportion of world trade in services.

What must a nation do to gain and hold strong international trading and investment positions? There are three areas in which it must excel. First, it must maintain economic competitiveness. Second, it must influence trade regulations so that other countries open their doors for its goods and services, being willing to buy from as well as sell to the country. Third, its businesses must develop a global orientation that allows it to operate as MNEs, not just as local firms doing business overseas.

Research shows that the best way for companies to achieve competitive advantage is with innovation. Quite often this is accomplished through ongoing improvement of goods or services.

International business has been conducted ever since national borders were formed and has played a major role in shaping the world history. Today, international business has forged a network of global linkages around the world that bind us all — countries, institutions, and individuals — much closer than ever before. These linkages tie together trade, financial markets, technology, and living standards in an unprecedented way.

Times are changing. Individuals, corporations, and policy-makers have been awakened to the fact that international business is a major imperative and opportunity for future growth and prosperity. International business offers access to new customers, affords economies of scale, and permits the honing of competitive skills. Performing well in global markets is the key to improved standards of living, higher profits, and strengthened position in the world economy. Therefore, knowledge about international business is important to everyone, whether it is used to compete with foreign firms or simply to add to a better understanding of the world around us.

Adapted from *A Briefing of International Business*

New Words and Expressions

access	*n.* 1. (使用或见到的)机会,权利 2. 通道,通路,入径
account for	1. 占有,占……百分比 2. 说明〔解释〕……原因,证明 3. 对……负有责任
a globally integrated business system	全球一体化的商务/商业/业务系统
a global village	地球村
awaken sb. to sth.	使某人意识到某事
cruise	*n.* 1. 乘船游览 2. 豪华游轮
cruise line	游船公司
economies of scale	规模经济
excel	*vt.* 优于,胜过(in/at) *vi.* 突出,胜过他人(in/at)
financial market	金融市场
foreign direct investment (FDI)	外国直接投资
forge	*vt.* 1. 伪造,仿造 2. 锻造
franchise	*n.* 1. 获特许权的商业机构(或服务) (synonym) dealership 2. (公司授予的)特许经销权,(国家授予的)特别经营权,特许

	vt. 给……以特许权，出售特许权
global orientation	面向全球，全球导向
headquarter	*vt.* 1. 将……的总部设在 2. 把……放在总部里
hone	*vt.* 1. 把(刀、剑等)磨光，磨快 2. 磨练，训练(尤指技艺)
imperative	*n.* 1. 必要的事，紧急的事，必须完成的事，必须履行的责任 2. 必要性，必备条件
industrial machinery	工业机械
innovation	*n.* 改革，革新，创新
integrate	*vt.* 1. 使一体化，使合并，使整合，综合，同化（常与 with，into 连用） 2. 使完整；使完善
international airline	国际航线，国际航空公司
joint venture (JV)	合资企业
licence/license	*n.* 许可证，执照，许可，特许 (synonym) permit *vt.* 特许，许可
linkage	*n.* 1. 连接，结合，联系 2. 联动装置 3. 连锁
living standard	生活水平
management contract	管理合同
medium-sized	*adj.* 中型的，普通型的
mobile	*adj.* 1. 可迅速转动的，易于移动的，非固定的，可移动的 2. 车载的，易于变换社会阶层(或工作、住处)的，流动的
multinational	*adj.* 多国的，跨国的，涉及多国的 (synonym) transnational (similar) international *n.* 多国籍的公司，跨国公司
multinational enterprise (MNE)	跨国(多国)公司
national border	国界

non-trade sector	非贸易部门
ongoing	*adj.* 继续进行的，不断前进(发展)中的
partner	*n.* 1. 伙伴，合伙人，股东 2. 搭档
physical goods	实物
policy-maker	政策制定者
proportion	*n.* 1. 一物与他物在数量、大小等方面的关系，比例，倍数关系 2. 均衡，相称，协调
prosperity	*n.* 1. 幸运，顺利 2. 兴旺，繁荣 3. 成功
reservation agency	预订(代理)机构
sector	*n.* 1. (尤指一国经济的)部门，领域 2. (尤指军事管制的)防御地区，防卫区域
take on	1. 承担 2. 呈现，穿上 3. 雇用
tie together	(使)捆在一起，(使)联系在一起
transaction	*n.* 交易，事务，事项
unprecedented	*adj.* 前所未有的，空前的，没有先例的
VCR	*abbr.* (=Video Cassette Recorder)盒式录像机，卡式录影机
wholly owned subsidiary	全资子公司

Notes

1. International Business　国际商务

本文改编自 *A Briefing of International Business*(国际商务简介)。该文引自 *Practical English for International Business*(《新编国际商务英语(修订版)》)，赵孝盛编注，2000 年上海交通大学出版社出版。

2. Direct investment is mostly conducted by the 500 largest firms in the world; these firms account for the major part of all international trade.

直接投资主要是由世界上最大的 500 家公司来进行；这些公司占了所有国际贸易额的较大部分。

3. International business has been conducted ever since national borders were formed and has played a major role in shaping the world history.
国际商务自从国界形成以来一直在进行，并对塑造世界历史起到了重大作用。
shape the world history 塑造世界历史
4. International business offers access to new customers, affords economies of scale, and permits the honing of competitive skills.
国际商务使人能接近新客户、获得规模经济和磨练竞争技能。

Exercises

I. Check your comprehension.

1. What does international business consist of? Please name the two primary types of international business.
2. Why is the study of international business heavily focused on the activities of large MNEs? What can MNEs be briefly defined as?
3. Is international business limited to giant multinational enterprises? Why do you think so?
4. In the case of international trade, what shouldn't we neglect besides physical goods?
5. What must a nation do to gain and hold strong international trading and investment positions?
6. Can you say something about the importance of studying international business?

II. Match Column A with Column B.

Column A	Column B
1. international business	A. 管理合同
2. FDI	B. 合资企业
3. management contract	C. 实物
4. MNE/MNC/TNC	D. 非贸易部门
5. joint venture (JV)	E. 全资子公司
6. physical goods	F. 国际商务
7. wholly owned subsidiary	G. 外国直接投资
8. non-trade sector	H. 跨国(多国)公司

III. Translate the following sentences into Chinese.

1. The transactions in international business primarily take on such often interrelated forms as export-import trade and foreign direct investment (FDI).
2. In terms of foreign direct investment, the wholly owned subsidiary and the joint venture are two common types.
3. International business is not restricted to giant multinational enterprises. Both giant multinational enterprises and many small and medium-sized businesses participate actively in international business.
4. Although exports and imports are often viewed as physical goods only, they also include services in which we see an increasing proportion of world trade.
5. Good performances in world markets play a key role in improving standards of living, making higher profits, and strengthening positions in the world economy.

Part B

Mechanical and Electrical Engineering English

NC and CNC

Numerical Control (NC) is any machining process in which the operations are carried into execution automatically in the sequence as designated by the program containing the information for the machine tool movements. The NC concept was proposed in the late 1940s by John Parsons of Traverse City, Michigan, the United States of America. Parsons recommended a method of automatic machine control that would guide a milling cutter to produce a "thru-axis curve" in order to generate smooth profiles on work pieces.

When NC is conducted under computer supervision, it is then called Computerized Numerical Control (CNC). Computers are the control units of CNC machines, and they are built in the machines or linked to them via communications channels. When a programmer input some information in the program by tape and so on, the computer calculates all necessary data to

get the job done. The first numerically controlled (NC) machines were controlled by tape, and so the NC systems were known as tape-controlled machines.

Since its introduction, NC technology has found many applications, including lathes and turning centres, milling machines and machining centres, punches, electrical discharge machines, flame cutters, grinders, and testing and inspection equipment. The most complicated CNC machine tool is the turning centre.

On the one hand, in comparison with conventional machines, CNC ones have many advantages. First of all, it can be easily seen that there is a possibility of performing multiple operations on the same machine in one setup. Because there exists the possibility of simultaneous multi-axis tool movement, special profile tools are not necessary to cut unusual part shapes. In addition, the scrap rate is significantly lowered owing to the precision of the CNC machine and lesser operator impact. Also, it is easy to incorporate part design changes when CAD / CAM systems are employed. It is rather convenient to perform quality assurance by a spot check instead of by checking all parts. Furthermore, production is significantly increased. Those above-mentioned advantages are only some of the advantages presented by CNC machines over conventional ones. However, on the other hand, inevitably CNC machines are imperfect and also have some disadvantages. They are quite expensive and have to be programmed, set up, operated, and maintained by highly skilled personnel. It goes without saying that CNC machines have more advantages than disadvantages. The companies that adopt the CNC technology benefit from it and increase their competitive edges.

CNC machine tools are complex assemblies. No matter how complex they are, however, any CNC machine tool consists of computers, control systems, drive motors and tool changers. The computer reacts on. As with all computers, the CNC machine computer works on a binary principle using only two characters 1 and 0 for information processing precise time impulses from the circuit. There are two types of control systems on NC / CNC machines: open loop and closed loop. The type of control loop used determines the overall accuracy of the machine. The drive motors control the machine slide movement on NC / CNC equipment. They come in four basic

types: stepper motors, DC servomotors, AC servomotors and fluid servomotors. The majority of NC / CNC machine tools are equipped with automatic tool changers. Tool changers may be mounted for either random or sequential selection.

In the future, the broader use of CNC machines will undoubtedly be one of the best ways to enhance automation in manufacturing.

Adapted from *NC and CNC*

New Words and Expressions

assembly	*n.* 装配,组装件,集合,集结,汇编
axis	*n.* (*pl.* axes) 轴,轴线
build in	安装,固定
CAD (computer-aided design)	*abbr.* 计算机辅助设计
CAM (computer-aided manufacturing)	*abbr.* 计算机辅助制造
competitive edge	竞争优势
Computerized Numerical Control (CNC)	计算机数字控制(简称计算机数控)
control system	控制系统
control unit (CU)	(电脑)控制单元
conventional	*adj.* 惯例的,常规的,习俗的,传统的
conventional machine	传统机床
cutter	*n.* 刀具,切割机
drive	*n.* (计算机的)驱动器,驾车,快车道,推进力,驱使,动力
drive motor	驱动电机,传动马达
edge	*n.* 1. 优势 2. 尖锐,刀口,利刃,锋,边缘
electrical discharge machine	放电加工机床,电火花加工机床
flame cutter	火焰切割机
generate	*vt.* 产生,发生
grinder	*n.* 研磨者,用来磨碎东西的器械,磨床,臼齿
incorporate	*vt.* 1. 包含,加上,吸收 2. 把……合并,使并入
lathe	*n.* 车床,[纺]走梭板 *vt.* 用车床加工

machining centre	加工中心
machine tool	机床，工具机
milling cutter	铣刀
milling machine	铣床
numerical	*adj.* 数字的，用数表示的
Numerical Control (NC)	数字控制(简称数控)
punch	*n.* 冲压机，冲床，打孔机
	vt. 冲孔，打孔
quality assurance	质量保证
recommend	*vt.* 推荐，介绍，劝告，使受欢迎，托付，使……受欢迎，使……可取
scrap	*n.* 1. 废料，残余物
	2. 小片，剪下来的图片，文章
scrap rate	废品率
setup	*n.* 安装，机构，设置，装备，组织，计划，调整
significantly	*adv.* 意味深长地，值得注目地
skilled	*adj.* 熟练的
spot check	抽样调查，抽查
supervision	*n.* 监督，管理
testing and inspection equipment	测试和检验设备
thru	*adv.*, *prep.* (美国用语)(口语)＝through
	经过，穿过，通过
thru-axis curve	过轴曲线
turning centre	车削中心

Proper Names

John Parsons	约翰·帕森斯
Michigan	密歇根州(美国州名)
Traverse City	特拉弗斯城(在美国密歇根州)

Notes

1. NC and CNC　数控和计算机数控

本文改编自《机电与数控专业英语》中的 *NC and CNC*(数控和计算机数控)。该书由蒋忠理主编，2003 年 2 月机械工业出版社出版。

2. Numerical Control (NC) is any machining process in which the operations are carried into execution automatically in the sequence as designated by the program containing the information for the machine tool movements.
数字控制(NC)是按照包含机床运动信息的程序所指定的顺序自动执行操作的加工过程。
3. When NC is conducted under computer supervision, it is then called Computerized Numerical Control (CNC).
当数控在计算机监控下进行时,它就被称为计算机数控。

Translation Principles

Various translation theorists at home and abroad put forward different translation principles. Some influential principles are introduced as follows.

Yan Fu's Triple Translation Principle

Yan Fu, a respectable Chinese translation theorist, proposed the well-known triple translation principle, that is, faithfulness, expressiveness and elegance (信、达、雅), which is also called Yan Fu's three-character translation principle. "Faithfulness" holds the meaning that the translated text should be faithful to (忠实于) the original text, namely, the version should retain (保留,保持) the content or idea of the original text. "Expressiveness" is referred to as the idea that the translated text should be expressive and coherent (连贯的,一致的,易懂的) without anything awkward (晦涩不明的,晦涩难懂的), that is to say, "expressiveness" demands that the version should be fluid (流畅的), smooth, and very easy to read and understand. Briefly speaking, a translation should read well like an original work. "Elegance" presents the idea that the translated text should be exquisite (优美的) and natural and that its style ought to be very graceful (优雅的). A growing number of scholars or translators argue against Yan Fu's "elegance" since there are many different styles and Yan Fu's "elegance" is only appropriate for translation of elegant texts.

Liu Zhongde's Triple Translation Principle

In 1979 Professor Liu Zhongde put forward his triple translation principle or his three-point translation principle of faithfulness, expressiveness and closeness (信、达、切). He retained the first two characters of Yan Fu's, but replaced

Yan Fu's "elegance" with "closeness". He emphatically pointed out that not all works are characterized by the elegant style, and that the style of the translated text should be as close to the original one as possible. His principle is appropriate for all types of texts with different styles and his having changed Yan Fu's "elegance" into "closeness" represents his contribution to the translation theory.

Alexander Fraser Tytler's Three-point Translation Principle

The earliest and most influential scholar who discussed translation principles was Alexander Fraser Tytler, a well-known British scholar. In 1790, he wrote his "Essay on the Principles of Translation" in which he pointed out that a translation should fully represent the ideas and style of the original and should possess the ease (流畅自然) of original composition. That was his three-point translation principle.

Eugene A. Nida's Functional Equivalence

Eugene A. Nida maintains (主张) that translation is both an art and a science. He established the translation principle "dynamic equivalence" or "functional equivalence". According to "dynamic equivalence" (1969), the translator should try his utmost to translate the meaning of the original text in such a way that the target language text wording will produce the same impact on the target text audience as the original wording does upon the source text audience. Afterwards Nida changed "dynamic equivalence" into "functional equivalence".

No matter which translation principle you support or use, as a translator, you should be faithful to the original text as far as the meaning and style are concerned. Simultaneously, you should endeavour (努力) to make the translated text as expressive and understandable as possible.

Notes

1. Translation Principles 翻译原则
   本文改编自《新编英汉互译教程(第二版)》第一篇里的 *Principles for Translation*(翻译的原则)。该书由谭卫国和蔡龙权主编,2009 年 2 月华东理工大学出版社出版。
2. Yan Fu, a respectable Chinese translation theorist, proposed the well-

known triple translation principle, that is, faithfulness, expressiveness and elegance, which is also called Yan Fu's three-character translation principle.

严复,一位令人尊敬的中国翻译理论家,提出了有名的翻译三大原则,即信、达、雅三字,这也叫作严复的三字翻译原则。

严复(1854～1921),中国近代著名启蒙思想家、翻译家、教育家,在其译著《天演论》中提出了"信、达、雅"三大(或三字)翻译原则。

3. In 1979 Professor Liu Zhongde put forward his triple translation principle or his three-point translation principle of faithfulness, expressiveness and closeness (信、达、切).

在1979年刘重德教授提出了他的信、达、切三大翻译原则或称三点翻译原则。

刘重德(1914～2008),中国翻译家,提出了"信、达、切"三大翻译原则,即信于内容、达如其分、切合风格。

4. The earliest and most influential scholar who discussed translation principles was Alexander Fraser Tytler, a well-known British scholar.

论述过翻译原则的最早也最具影响力的学者是亚历山大·弗雷泽·泰特勒,一位著名的英国学者。

亚历山大·弗雷泽·泰特勒(1747～1814),英国律师、作家和史学家,在其专著《论翻译的原则》中提出了三点翻译原则,即复写原作思想、风格手法与原作同一、具备原作的通顺。

5. Eugene A. Nida maintains (主张) that translation is both an art and a science. He established the translation principle "dynamic equivalence" or "functional equivalence".

尤金·奈达主张,翻译既是一门艺术又是一门科学。他创立了翻译原则"动态对等"或"功能对等"。

尤金·奈达1914生,美国语言学家、翻译家和翻译理论家,1969年和塔伯(C. Taber)发表了《翻译理论与实践》,提出了"动态对等"——后叫"功能对等"的翻译原则。

Translation Technique — Conversion of Parts of Speech
翻译技巧——词类转译法

词类转译是翻译中常用的一种变通手段,是突破原文词法、句法格局,化阻

滞为通达的重要技巧。从理论上说，翻译中的词类转换是没有限制的，但从英汉翻译实践来看，词类转译主要涉及名词和动词之间的转换、名词和形容词之间的转换、介词和动词之间的转换、形容词和副词之间的转换等。不管词类如何转译，它都要遵循一个原则，即不违背原文的意思，有助于译文的通顺流畅（孙致礼，2003）。现摘取上文“NC and CNC”（《数控和计算机数控》）里的一些句子来具体举例说明词类转译在机电英语汉译中的一些应用。

一、名词和动词之间的转译

（1）Since its introduction, NC technology has found many applications, including lathes and turning centres, milling machines and machining centres, punches, electrical discharge machines (EDM), flame cutters, grinders, and testing and inspection equipment. The most complicated CNC machine tool is the turning centre.

数控技术自从被创立以来，已被广泛应用，应用实例包括车床和车削中心、铣床和加工中心、冲床、电火花加工机床、火焰切割机、磨床及测试检验设备。最复杂的计算机数控机床是车削中心。（名词→动词）

（2）First of all, it can be easily seen that there is a possibility of performing multiple operations on the same machine in one setup.（名词和动名词→动词）

首先，显而易见，在同一台机床上，安装一次即可完成多个操作任务是可能的。

二、名词和形容词之间的转译

有时，一个词可以转译成不止一种词类，使得一个句子可以有多种译法，译文同样通顺流畅。比如，上面的句子(2)里的名词 possibility 可以译成形容词：

First of all, it can be easily seen that there is a possibility of performing multiple operations on the same machine in one setup.（名词→形容词）

首先，显而易见，在同一台机床上，安装一次即可完成多个操作任务是可能的。

三、介词和动词之间的转译

It is rather convenient to perform quality assurance by a spot check instead of by checking all parts.（介词短语→动词）

通过用抽检代替全检，保证质量的工作变得相当便利。

四、形容词和副词之间的转译

In the future, the broader use of CNC machines will undoubtedly be one of the best ways to enhance automation in manufacturing.（形容词→副词）

未来愈加广泛地使用计算机数控机床毫无疑问将成为制造业提高自动化程度的最佳途径之一。

五、其他词类转译

比如：

(1) Because there exists the possibility of simultaneous multi-axis tool movement, special profile tools are not necessary to cut unusual part shapes. (形容词→动词)

因为存在机床多轴联动的可能性，所以不需要特别的成形刀具来切削异常的零部件形状。

(2) 下面这个句子，前面提到过，里面的名词 possibility 可转译成形容词，见上，也可转译成副词，见下：

First of all, it can be easily seen that there is a possibility of performing multiple operations on the same machine in one setup. (名词→副词)

首先，显而易见，在同一台机床上，可能安装一次即可完成多个操作任务。

——改编自《新编英汉互译教程》第二篇"词类转换"

Note

Translation Technique — Conversion of Parts of Speech 翻译技巧——词类转译法

本文改编自《新编英汉互译教程(第二版)》第二篇中的"词类转译"，由谭卫国和蔡龙权主编，2009 年 2 月华东理工大学出版社出版。

Exercises

I. Fill in the blanks according to the passage of "NC and CNC".

1. When numerical control is performed under computer supervision, it is called _____.
2. The first numerically controlled (NC) machines were known as _____ _____ machines because the numerical data were controlled by _____ _____.
3. NC technology has been applied in many machine tools such as _____ and _____, _____ and _____ _____, _____, _____ (EDM), _____ _____, _____, and _____ and _____.

4. In general, any CNC machine tool consists of four units which are _____ _____, _____, _____, _____ _____.
5. The two types of control systems on NC/CNC machines are _____ ____ and _____.
6. The drive motors controlling the machine slide movement on NC / CNC equipment come in four basic types which are _____, _____, _____, _____.

II. Answer the following questions briefly.

1. What is the definition of NC and CNC?
2. Make a list of some applications of NC and CNC.
3. What are the advantages and disadvantages of CNC machines when compared with NC?
4. In terms of the above-mentioned translation principles, which one are you in favour of?
5. Why did Professor Liu Zhongde disapprove of Yan Fu's "elegance" and change it into "closeness"?
6. What is Eugene A. Nida's Functional Equivalence?

III. Translate the following expressions into Chinese or English.

English	Chinese
1. milling machine	
2.	计算机数控
3. testing and inspection equipment	
4.	过轴曲线
5.	放电加工机床,电火花加工机床
6. spot check	
7. machining centre	
8.	机床,工具机
9. milling cutter	
10.	质量保证

IV. Translate the sentences listed below into Chinese, using the translation technique learned in this part when necessary.

1. Sentences

1) Typically, an automatic tool changer grips the tool in the spindle, pulls it out, and replaces it with another tool.（将介词 with 转译成动词）

2) If there is any doubt that the program will be out of order, please make sure that the parts are clamped properly.（将名词 doubt 转译成动词）

3) Safety as well as maintenance is an absolute necessity for CNC machines.（将名词 doubt 转译成形容词）

4) With slight repairs, the milling machine can be in motion.（将形容词 slight 转译成副词）

2. The passage "NC and CNC"

Unit 2

Preview

Part A International Business English

The Business Contract

In international business, what should generally be done when business partners agree with each other after negotiations? To sign a business contract, of course. The business contract sets forth binding obligations of the relevant parties and can be enforced by law whether it is a sales contract or a purchase contract. Similarly, a sales or purchase confirmation covers only the essential terms of the transaction.

Part B Mechanical and Electrical Engineering English

Computer-based Test Instruments

Computer-aided test (CAT) instruments help companies of all sizes which have realized the use of CAT to save enormous expenses and much time in program development and main frame construction. The personal computer is used to carry out the general design of those instruments. This passage aims at drawing readers' attention to some internal and external PC instruments.

Major Translation Approaches

In general, there are three major translation approaches, namely, the free translation approach, the literal translation approach, and the free-plus-literal

translation approach which is similar to the literal-plus-liberal translation approach put forward by Tan Weiguo and Cai Longquan (2009). Those approaches are very useful in translation.

Translation Technique — Voice Conversion

The translation technique discussed here is voice conversion which involves two cases, that is, turning English passive voice into Chinese active voice and changing English active voice into Chinese passive voice.

Part A

International Business English

The Business Contract

A business contract is an agreement which sets forth binding obligations of the relevant parties and can be enforced by law, and if any party fails to fulfill his contractual obligations, that party may be sued and forced to make compensation, though not all contracts give rise to disputes.

The contract is signed on the basis of agreement, which results from business negotiations that are divided into two types, that is, oral business negotiations and written ones. The oral negotiations are referred to as face-to-face discussions conducted at trade fairs or by sending trade groups abroad or by inviting foreign customers and those held through international trunk calls. The written negotiations tend to start with enquiries made by the buyers to get information about the goods to be ordered such as quantity, specifications, prices, time of shipment and other terms. An enquiry is made without engagement on the part of the enquirer. In case of a first enquiry, that is, an enquiry sent to an exporter whom the importer has never dealt with, information should be given in the enquiry as to how the name and address of the exporter have been obtained, the business line and usual practice of the importer, etc. so as to facilitate the exporter's work.

In reply to an enquiry, a quotation may be sent by the exporter which should include all the necessary information required by the enquiry.

Sometimes, the exporter may make an offer to an importer voluntarily. A firm offer is a promise to sell goods at a stated price. The offeree may find part of the offer unacceptable and may raise for further discussions his own proposals which constitute a counter-offer. It is a refusal of the offer which will be invalid and unbinding once a counter-offer is made. The counter-offer thus becomes a new offer made by the original offeree to the original offerer.

The transaction is considered to be concluded once an offer or a counter-offer is accepted. A written contract is generally prepared and signed as the proof of the agreement and as the basis for its execution. The contract which is made by the seller is called a sales contract whereas the one which is made by the buyer is called a purchase contract. A sales or purchase confirmation covering only the essential terms of the transaction is less detailed than a contract, and is usually used for smaller deals or between familiar trade partners.

The setting up of a contract is similar to that of a trade agreement or any other type of formal agreements. It generally contains the following items:

(1) The title. The type of the contract is indicated in the title such as Sales Contract, Purchase Contract, Consignment Contract, etc. The number of the contract and the date are given below the title to the right side.

(2) The contract proper. This part includes such items as follows:

A. The full name and address of the buyer and the seller.

B. The commodities involved including quantity, quality, specifications, packing, etc.

C. All the terms and conditions agreed upon such as the price, total amount, terms of payment, transportation, insurance, etc.

D. Indication of the number of original copies of the contract, the languages used, the term of validity and possible extension of the contract.

(3) The signatures of the contracting parties indicating their status as the seller or the buyer.

(4) The stipulations on the back of the contract are constituent parts of the contract and are equally binding upon the contracting parties. These may include the shipping documents required, force majeure, arbitration, claims, etc.

Adapted from *The Business Contract*

New Words and Expressions

arbitration	*n.* 仲裁，公断
binding	*adj.*（书面材料）有约束力的，应履行的
business contract	贸易（交易）合同
compensation	*n.* 补偿，赔偿
conclude a transaction	达成交易
consignment contract	寄售合同
contract proper	合同正文
contractual	*adj.* 契约的
counter-offer	*n.* 还盘
enforce	*vt.* 实施，执行
engagement	*n.* 约束力
enquirer	*n.* 询盘者，询问者，追究者
enquiry	*n.* 询盘，询价，询问
face-to-face	*adj.* 面对面的
	adv. 面对面地
face-to-face discussion	面对面讨论
facilitate	*vt.* 使容易，使便利，推动，帮助，促进
firm offer	实盘
force majeure	不可抗力，人力不可抗拒的事故
give rise to	引起，导致，使发生
invalid	*adj.*（法律上或官方）不承认的，无效的
obligation	*n.* 义务，职责，债务
offer	*n.* 发盘，出价
	vt. 提供，出价
	vi.（机会、时机等）出现，献祭，提议
offeree	*n.* 收到发盘的人，收盘人，被报价人
on the part of	在……方面，就……而言，由……所表现出的，由……所作出的
purchase confirmation	购货确认书，采购确认书
purchase contract	购货合同，采购合同
quotation	*n.* 报价，报价单，行情表
sales confirmation	售货确认书，销售确认书
sales contract	售货合同，销售合同

set forth	陈述，阐明
specification	*n.* 详述，规格，说明书，规范
sue	*vt.* 起诉，控告，向……请求，请愿起诉
	vi. 起诉，提出诉讼，提出请求
term	*n.* 条款，条件，期限，期间
terms of payment	支付条件，付款条件
time of shipment	装船期，装运期，交货时间，交运时间
trade fair	商品交易会
trunk call	长途电话
unbinding	（法律上）无拘束作用的，无约束力的
validity period	（＝term of validity）有效期
voluntarily	*adv.* 主动地，自愿地

Notes

1. The Business Contract　交易合同

本文改编自《经贸知识英语（第二版）》一书的第六课 *The Business Contract*（交易合同）。该书由王学文主编，2000 年 7 月中国人民大学出版社出版。

2. The contract is signed on the basis of agreement, which results from business negotiations that are divided into two types, that is, oral business negotiations and written ones.

合同是在协议的基础上订立的，而协议又是商务谈判的结果，商务谈判分为两类，即口头谈判和书面谈判。

3. An enquiry is made without engagement on the part of the enquirer.

询盘对询盘人没有约束力。

on the part of　在……方面，就……而言，由……所表现出的，由……所作出的

例：The agreement has been kept on the part of the seller.

卖方遵守了协议。

There is no objection on the part of the owner of the apartment.

公寓主人没有什么异议。

4. In case of a first enquiry, that is, an enquiry sent to an exporter whom the importer has never dealt with, information should be given in the enquiry as to how the name and address of the exporter have been obtained, the

business line and usual practice of the importer, etc. so as to facilitate the exporter's work.

如果是首次询盘,即进口商向从未打过交道的出口商发出询盘,询盘中应该包括进口商是如何获得出口商的名址的,还应该包括进口商的经营范围和通常做法等,以便出口商进行工作。

Business line　业务范围、经营范围

5. The stipulations on the back of the contract are constituent parts of the contract and are equally binding upon the contracting parties. These may include the shipping documents required, force majeure, arbitration, claims, etc.

合同背面的规定是合同的组成部分,对合同双方同样具有约束力,这些可能包括所需要的装运单据、不可抗力条款、仲裁条款、索赔条款等。

force majeure,不可抗力。这是一项免责条款,指不是因当事人的过失而是因无法控制的原因造成的违约。不可抗力通常分为两种类型:一种是由自然力量引起的,如火灾、风暴、地震等,国际上的解释比较一致;另一种是由社会原因引起的,如战争、罢工、政府禁令等,对此各国的解释往往有分歧。

Exercises

I. Check your comprehension.

1. What is a business contract? What happens if any party fails to fulfill his contractual obligations?

2. On what basis is the contract signed? How many types of business negotiations are there? What are they?

3. In response to an enquiry, what necessary information should be included in a quotation by the exporter? What kind of offer is a firm offer?

4. What is the offeree likely to do if he finds part of the offer unacceptable? Is a counter-offer a refusal of the offer made by the exporter? What happens once a counter-offer is made?

5. Why is a written contract prepared and signed? What is the difference between a confirmation and a contract?

6. How many items does a contract generally contain? What are they?

II. Match Column A with Column B.

Column A	Column B
1. time of shipment	A. 还盘
2. conclude a transaction	B. 询盘,询价
3. enquiry	C. 达成交易
4. firm offer	D. 装运时间
5. business contract	E. 商品交易会
6. counter-offer	F. 实盘
7. sales confirmation	G. 贸易(交易)合同
8. trade fair	H. 售货确认书,销售确认书

III. Translate the following sentences into Chinese.

1. A business contract is an agreement which sets forth binding obligations of the relevant parties. It is enforceable by law, and any party which fails to fulfill his contractual obligations may be sued and forced to make compensation, though most contracts do not give rise to disputes.

2. The oral negotiations refer to direct discussions conducted at trade fairs or by sending trade groups abroad or by inviting foreign customers. Business discussions held through international trunk calls are also included in this category.

3. In making a firm offer, mention should be made of the time of shipment and the mode of payment desired in addition to an exact description of the goods including the quantity, quality, specifications, packing, etc.

4. The validity period is indispensable to a firm offer. An offer is considered open until after a stipulated time or until it is accepted or rejected.

5. A counter-offer may be made in relation to the price, terms of payment, time of shipment or other terms and conditions of the offer.

Part B

Mechanical and Electrical Engineering English

Computer-based Test Instruments

Computer-aided testing (CAT) has received a warm welcome from almost companies of all sizes which have realized that they can benefit from CAT which will save them enormous expenses and much time in program development and main frame construction. Computer-aided test instruments help those companies to meet the goals of labour cost reduction, productivity increase and the elimination of human errors in reading and processing measurements, by utilizing the power of software to perform many of the functions traditionally conducted by workbenches loaded with hardware. The personal computer is used to carry out the general design of those instruments. There are internal and external PC instruments.

Internal Adapters

Internally-used PC instruments are installed on one or more computer adapter boards. The boards are physically identical to the video and I/O adapter cards which the computer requires for normal operation. In order that the instrument can be installed into the computer, the card is simply plugged into an available expansion slot on the motherboard, and the system functions as usual. The use of the test instrument is then controlled by some software via the computer keyboard. There are no knobs, switches, or indicators available to the user. The entire operation of the instrument is undertaken through the computer and its interfaces.

An example of an internal-adapter PC-test device is an analytical oscilloscope from R.C. Electronics called the COMPUTERSCOPE-IND IS-16. The IS-16 Data Acquisition package consists of a 16-channel analog-to-digital conversion board, an external instrument interface box, and appropriate software.

External PC Instruments

In an externally connected PC instrument, the test instrument is housed in a conventional cabinet external to the computer's cabinet. Input-output connectors, selector switches, and perhaps one or two LEDs may be installed

in the cabinet. Also, a connector cable comes from the external instrument which is plugged into the PC. The connection between the external PC test instrument and the computer is in the form of an umbilical cord that feeds voltage, data, and control signals between the two devices. When connected to the computer, the test instrument becomes a virtual powerhouse.

Inside the computer is an interface card that translates the signals coming from the external measuring instrument into digital pulses with voltage levels and timing requirements compatible with those on the computer bus.

The System One audio analyzer is a typical example of an external PC-test instrument for testing audio precision. The System One is designed as a computer-interfaced audio test station capable of performing more than 36 standard performance tests on audio amplifiers, magnetic tape systems, and related audio components.

Analog-to-digital Conversion

Central to the performance of any PC-based test instrument is an analog-to-digital converter, or ADC. The ADC converts an analog input voltage into a binary digit. Basically, there two analog-to-digital conversion methods employed for PC-based test instruments. They are the successive approximation register type and the flash converter.

Before the advent of monolithic electronics, the successive approximation register (SAR) method was viewed as the black sheep of the ADC family due to its slow conversion rate. But with today's technology development — ultra-fast comparators, fast current switching, and ECL logic — useful performance can be obtained from successive approximation converters. An noticeable feature of the successive approximation technique is that it requires very little hardware. Consequently, its is possible to integrate an ADC of this type into a single chip with 12-bit or higher resolution at a very low cost.

Though the successive approximation converter may be very attractive, it cannot possibly address the issues of video frequency or digital sampling applications. For such applications, another type of ADC called the flash converter is used. The flash converter performs a conversion and outputs data within a single clock cycle. Analog-to-digital conversion is accomplished through a parallel array of voltage comparators.

Computer Interface

In the case of the internal PC instrument, the data bits are transferred directly to the computer using the internal data bus of the computer. The only interface of the computer to the outside world is through the input / output ports of the test instrument.

In the design of external PC-test instruments, provisions must be made to interface the external box to the internal computer bus. In the case of the System One audio test station, the connection is made through a proprietary communication link which leads to a digital interface card inserted into a computer expansion slot. The interface card then translates the digital input pulses into signals that the computer bus understands. Many external PC - based test equipment manufacturers have taken this route, that is, they have used an enormous variety of proprietary interface schemes. In some cases, the external test instrument manufacturer attempts to standardize its interface, making it compatible with a wide range of computers and not limiting it to the IBM PC family. One such approach is the use of the RS - 232 serial interface port available on every computer and many other types of devices.

General-purpose Interface Bus

The first major step toward the goal of assembling individual test instrument into interactive, automated system was taken by Hewlett-Packard in the early 1970s with their introduction of the Hewlett-Packard Interface-Bus (HP - IB). The HP - IB is essentially a communication link that allows one instrument to talk to another over a standard electrical bus composed of many wires. In 1975, the HP - IB standard was adopted by the IEEE committee as the IEEE - 488 standard. The IEEE - 488 standard was updated in 1978 to IEEE - 488 - 1978 and officially labeled the General-purpose Interface Bus, or GPIB. The preferred instruments for an IEEE - 488 test system are talker-listeners, which can both send and receive information over the bus. Talker-listener capability can make the tasks of programming, troubleshooting, and maintaining IEEE - 488 test systems much easier.

Adapted from *Computer-based Test Instruments*

New Words and Expressions

adapter	*n.* 适配板,适配器
advent	*n.* (尤指不寻常的人或事)出现,到来
analog (=analogue)	*n.* 1. 类似物,同源语
	2. (电脑)模拟
	adj. 1. (钟表)有长短针的
	2. (电脑)模拟的
analog-to-digital conversion board	模数转换板
analog-to-digital converter (ADC)	模数转换器
array	*n.* 阵列,排列
assemble	*vt.* 集合,聚集,装配
	vi. 集合
audio amplifier	声(音)频放大器
binary	*adj.* 二进位的,二元的
binary digit	二进制位,二进制数字
black sheep	*n.* 害群之马,败家子
communication link	通信连接装置,通信线路
compatible	*adj.* 谐调的,一致的,兼容的
component	成分,组成部分,部件,元件
computer adapter board	计算机适配板
computer-aided testing (CAT)	计算机辅助测试
computer interface	计算机接口
consequently	*adv.* 从而,因此
digital input pulse	输入数字脉冲
digital interface card	数字接口卡
elimination	*n.* 排除,除去,消除,消灭
expansion slot	*n.* 扩充插槽,扩展槽
external	*adj.* 外置的,外部的
	n. 外部,外面
flash converter	闪存转换器
General-purpose Interface Bus (GPIB)	通用接口总线
house	*vt.* 把……安装在里面,把……储藏在房内
identical	*adj.* 1. 同一的,同样的
	2. 完全相同的,完全相似的(to/with)

indicator	*n.* 指示器,[化]指示剂
input-output connector	输入/输出接插件
in respect of	关于
integrate with	使与……结合
interactive, automated system	交互的自动化系统
interface	*n.* 1. [计算机]接口(连接两装置的电路,可使数据从一种代码转换成另一种代码),接口程序,连接电路 2. 界面,分界面 *vt.* 1. (使通过界面或接口)接合,连接 2. [计算机]使联系;使结合 *vi.* 相互作用(或影响),互相配合工作,协调地工作,匹配
interface box	接口盒
interface card	接口卡
internal	*adj.* 内置的,内部的 *n.* 内部,里面
internal adapters	内置适配器
internal computer bus	内部计算机总线
I/O	*abbr.* [计算机] Input/Output,输入/输出
keyboard	*n.* [计算机] 键盘
knob	*n.* (门,抽屉等的)球形捏手,手柄,旋钮
monolithic	*n.* 单片电路,单块集成电路
motherboard	*n.* 底板,母板
oscilloscope	*n.* 示波镜,示波器
plug	*vt.* 堵,塞,插上,插栓 *n.* 塞子,插头,插销
port	*n.* 端口,通信口
powerhouse	*n.* 发电站
productivity	*n.* 生产率,生产力
proprietary	*adj.* 所有的,私人拥有的 *n.* 所有者,所有权
provision	*n.* 供应,(一批)供应品,预备,防备,规定
selector switch	选择开关
slot	*n.* 狭槽,缝

	vt. 开槽于
standardize	*vt.* 使符合标准,使标准化
successive approximation converter	逐次逼近转换器
successive approximation register (SAR) method	逐次逼近方法
talker-listener	*n.* 收发器
test station	测试站
troubleshoot (也作 trouble-shoot)	*vt.* 做检修技工,检修
ultra-	表示"极端,过度"之意
ultra-fast comparators	超快比较器
umbilical	*adj.* 脐带的,母系的
umbilical cord	电缆,火箭操纵缆,脐带
utilize	*vt.* 利用
video frequency	视频(率)
virtual	*adj.* 虚的,实质的,[物]有效的,事实上的
voltage	*n.* [电工]电压,伏特数
workbench	*n.* 工作台,手工台

Proper Names

Hewlett-Packard	惠普公司(缩写为 HP,全称为美国休利特-帕卡德公司,世界著名的电器生产厂家)
Hewlett-Packard Interface-Bus (HP-IB)	Hewlett-Packard 接口总线

Notes

1. Computer-based Test Instruments　基于计算机的测试仪器

本文改编自《测控技术与仪器专业英语教程》一书的第 11 课同名文章。该书由刘曙光主编,2004 年电子工业出版社出版。

2. The boards are physically identical to the video and I/O adapter cards which the computer requires for normal operation.

这些板卡在物理性能上与视频卡和 I/O 卡完全相同,计算机靠这些板卡才能正常运行。

3. An example of an internal-adapter PC-test device is an analytical oscilloscope from R.C. Electronics called the COMPUTERSCOPE-IND IS-16. The IS-16 Data Acquisition package consists of a 16-channel

analog-to-digital conversion board, an external instrument interface box, and appropriate software.

内置 PC 测试设备的一个实例是 R.C. 电子公司的叫做 COMPUTERSCOPE－IND IS－16 的分析示波器。IS－16 的数据采集模块由一块 16 通道的 A/D 转换板、外置仪器接口盒和相应的软件组成。

4. The connection between the external PC test instrument and the computer is in the form of an umbilical cord that feeds voltage, data, and control signals between the two devices.

外置 PC 测试仪器和计算机以电缆的形式连接，电缆用于传送电压、数据及两台设备间的控制信号。

5. Inside the computer is an interface card that translates the signals coming from the external measuring instrument into digital pulses with voltage levels and timing requirements compatible with those on the computer bus.

计算机内有一个接口卡，它将外部测量仪器的信号转变为符合计算机总线要求的带有电平和定时要求的数字脉冲。

6. Before the advent of monolithic electronics, the successive approximation register (SAR) method was viewed as the black sheep of the ADC family due to its slow conversion rate.

在单片电路电子学出现之前，逐次逼近(SAR)方法因为其低的转换率被视作是 ADC 家族中的落伍者。

7. The flash converter performs a conversion and outputs data within a single clock cycle. Analog-to-digital conversion is accomplished through a parallel array of voltage comparators.

闪存转换器在单个时钟周期内执行转换并输出数据。模数转换通过一个并行电压比较器阵列来完成。

8. The first major step toward the goal of assembling individual test instrument into interactive, automated system was taken by Hewlett-Packard in the early 1970s with their introduction of the Hewlett-Packard Interface-Bus (HP－IB).

达到将单个测试仪器集成为交互的自动化系统的目标的第一大步是 19 世纪 70 年代早期由惠普公司通过 HP 接口总线(HP－IB)的引入完成的。

Major Translation Approaches

In general, there are three major translation approaches, namely, the free translation approach, the literal translation approach, and the free-plus-literal translation approach which is similar to the literal-plus-liberal translation approach put forward by Tan Weiguo and Cai Longquan (2009).

According to Richards, Platt and Platt (2000), a translation which reproduces (翻译出,再现) the general meaning and intention of the original but which does not closely following the grammar, style, or organization of it is known as a free translation; a translation which approximates (近似, 接近) to a word-for-word representation of the original is known as a literal translation. Some sentences have to be translated both freely and literally because of bilingual (两种语言的) differences. This free-plus-literal translation approach is sometimes very useful. The following examples are used to illustrate those approaches.

(1) In 1975, the HP-IB standard was adopted by the IEEE committee as the IEEE-488 standard. 在1975年,HP-IB标准被IEEE协会接纳为IEEE-488标准。(a literal translation)

(2) Do you see any green in my eye? 你以为我是幼稚好欺骗的吗? (a free translation)

(3) Computer-aided testing (CAT) has received a warm welcome from almost companies of all sizes which have realized that they can benefit from CAT which will save them enormous expenses and much time in program development and main frame construction. 计算机辅助测试受到了几乎所有不同规模的公司的热烈欢迎,因为它们都已经意识到,能得益于使它们在程序开发和结构搭建上省去巨额费用和许多时间的计算机辅助测试(a free-plus-literal translation:which 引导的定语从句是说明计算机辅助测试受欢迎的原因,故该从句意译成了原因,对全句其余部分采用了直译法)。

You can spread your wings with Open Studies. 开放型大学让你展翅飞翔 (a free-plus-literal translation:这句 spread your wings 是暗喻,具有深意,意译成了"展翅飞翔",对句子其余部分采用了直译法)。

Notes

1. Major Translation Approaches　主要翻译方法

本文参考了《新编英汉互译教程(第二版)》一书中第一篇里的“主要翻译方法”和《朗文语言教学及应用语言学词典》(*Longman Dictionary of Language Teaching & Applied Linguistics*)第 488 页。前者由谭卫国和蔡龙权主编,2009 年 2 月理工大学出版社出版);后者作者为 Jack C. Richards, John Platt 和 Heidi Platt,2000 年由外语教学与研究出版社出版。

2. According to Richards, Platt and Platt (2000), a translation which reproduces (翻译出,再现) the general meaning and intention of the original but which does not closely following the grammar, style, or organization of it is known as a free translation; a translation which approximates (近似,接近) to a word-for-word representation of the original is known as a literal translation. Some sentences have to be translated both freely and literally because of bilingual (两种语言的) differences. This free-plus-literal translation approach is sometimes very useful.

Richards, Platt 和 Platt (2000)认为,译出原文大意但不紧扣原文语法、风格或结构的,叫做自由翻译,即意译。差不多逐字逐句翻译原文的叫做直译。由于两种语言之间的差异,一些句子得结合直译和意译两种方法。这种意译加直译的翻译方法有时非常有用。

Translation Technique — Voice Conversion
翻译技巧——语态转译法

英译汉翻译技巧中的语态转译法涉及两种情况,即英语被动句转译为汉语主动句和英语主动句转译为汉语被动句。

英语中被动语态很常见。在不必说出主动者、不愿说出主动者、无从说出主动者或是为便于上下文连贯等情况下,英语句子往往会使用被动语态。汉语中的被动语态使用频率没有英语中那么高。用被动语态的英语句子,译成汉语时很多时候使用主动语态。此外,英语主动句有时会被转译成被动句。

现摘取上文“Computer-based Test Instruments”(《利用计算机的测试仪器》)里的一些句子来具体举例说明语态转译法在机电英语汉译中的一些应用。

(1) Internally-used PC instruments are installed on one or more computer adapter boards. 内置 PC 仪器安装在一个或一个以上的计算机适配板上。(英语被动句的主语在汉语译文中仍作主语)

(2) In order that the instrument can be installed into the computer, the card is simply plugged into an available expansion slot on the motherboard,

and the system functions as usual. 要将仪器装进计算机，只需将卡插进母版上可用的扩展槽，而系统功能照常。（英语被动句译成汉语无主句）

（3）The entire operation of the instrument is undertaken through the computer and its interfaces. 测试仪器的使用是通过计算机键盘由软件来控制的。（英语被动句译成汉语判断句）

（4）Computer-aided testing（CAT）has received a warm welcome from almost companies of all sizes ……计算机辅助测试受到了几乎所有不同规模公司的热烈欢迎……。（英语主动句译成了汉语被动句）

改编自“被动语态的译法”

Note

Translation Technique — Voice Conversion　翻译技巧——语态转译法

本文改编自《英汉翻译教程》一书第五章“被动语态的译法”，该书由张培基等人编著，1980 年 9 月上海外语教育出版社出版。

Exercises

I. Fill in the blanks according to the passage of “Computer-based Test Instruments”.

1. Computer-aided test instruments help those companies to meet such goals as _____, _____ and _____ _____ in reading and processing measurements by utilizing the power of _____ to perform many of the functions traditionally conducted by workbenches loaded with _____.
2. Internally-used PC instruments are installed on one or more _____ _____.
3. In an externally connected PC instrument, the test instrument is housed in a conventional cabinet _____ external to the computer’s cabinet. _____, _____, and perhaps one or two _____ may be installed in the cabinet.
4. Basically, there two analog-to-digital conversion methods employed for PC-based test instruments. They are _____ and _____.
5. In the design of external PC-test instruments, provisions must be made to

interface _____ to _____.

6. The preferred instruments for an IEEE－488 test system are _____ _____, which can both send and receive information over _____. Talker-listener capability can make the tasks of _____, _____ _____, and _____ much easier.

II. Answer the following questions briefly.

1. Why has computer-aided testing (CAT) received a warm welcome from almost companies of all sizes?
2. What are the two kinds of PC instruments according to the passage? Where are the internally-used PC instruments installed? In an externally connected PC instrument, where is the test instrument housed?
3. What is central to the performance of any PC-based test instrument?
4. In the case of the System One audio test station, how is the related connection made?
5. What is the HP－IB? When was the HP－IB standard adopted by the IEEE committee as the IEEE－488 standard? In 1978, what happened to the IEEE－488 standard?
6. What are the functions of the talker-listeners?

III. Translate the following expressions into Chinese or English.

English	Chinese
1. analog-to-digital converter (ADC)	
2. CAT	
3.	基于计算机的测试仪器
4.	声(音)频放大器
5. flash converter	
6. General-purpose Interface Bus (GPIB)	
7.	选择开关
8. interactive, automated system	
9. I/O	
10.	通信连接装置,通信线路

IV. Translate the sentences listed below and the passage of "Computer-based Test Instruments" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences

1) Generally speaking, audio tests are performed using sweep frequencies that span beyond the range of the device under test.（将被动语态转译成主动语态）

2) Input measurements can be stored in computer files or temporary computer memory (RAM) for archival purposes or further processing.（将被动语态转译成主动语态）

3) If desired, the new parameters may be saved to a computer file for future use.（将被动句转译成判断句）

4) Computer-aided testing (CAT) is so useful that it has attracted people's much attention.（将英语主动语态转译成汉语被动句形式）

2. The passage "Computer-based Test Instruments"

Unit 3

Preview

Part A International Business English

International Payment

In international business, the importer as well as the exporter faces risks in that it is possible that the other party may not fulfill the contract. Hence, different modes of payment have been developed to handle diverse situations. What are the main modes of payment? They are cash, open account, consignment sale, draft, documentary collection and L/C.

Part B Mechanical and Electrical Engineering English

CAD and CAM

Computer-aided design (CAD) and computer-aided manufacturing (CAM) are two products of the computer era. Computers play an important role in many aspects of drafting and design, and production.

Translation Technique — Addition of Proper Words

The translation technique "addition of proper words" is commonly-used in translation. It means that in line with the requirements in meaning and syntax, proper words are added when necessary to express what has been implied in the original text and to make the translated text smoother and more faithful to the original text than when there is no addition of such proper words.

Part A

International Business English

International Payment

In international business, purchase and sale of goods and services are undertaken beyond national boundaries, as a result of which the parties concerned in the transaction find it hard to get sufficient information about each other's financial status and creditworthiness. Hence, it is difficult to build mutual trust. The importer as well as the exporter faces risks in that it is possible that the other party may not fulfill the contract.

On the one hand, the exporter has the risk of buyer default due to both the buyer's bankruptcy, failure to get the foreign exchange, unreliability or refusal to pay, and the trade barrier of the importing country. On the other hand, the importer has the risk of shipment delay as a result of problems in production or transportation and also has the risk of receiving wrong or no goods because of the exporter's negligence or lack of integrity. As a matter of fact, political risks, commercial risks, language barriers and cultural differences all add up to the problems in international business. Since there exist so many complicated problems and risks, the exporter is reluctant to release the goods before receiving payment while the importer chooses to have the goods under control before bidding farewell to his money.

In international business, different modes of payment have been developed to handle diverse situations.

Cash

The exporter may prefer cash beforehand or partial cash in advance if the political and economic situations in the importing country makes payment uncertain or if the importer's financial and credit standing is untrustworthy. However, there is no guarantee of the exporter's fulfilling his obligations once he has got the cash.

Open Account

If the exporter and the importer are acquainted with each other, they may do business on open account, which means that there are no documents involved and that the importer is entitled to pay at any time as he likes. Sales

in this way are usually paid for through periodic payments, and it goes without saying that the exporter must be financially strong enough to bear the cost of the goods until receiving payment.

Consignment Sale

The exporter may enter into consignment sale if he hopes to hold title or ownership to the goods, which means that the exporter deliver his goods overseas and will not be paid until the goods are sold. The goods which are not sold can be shipped back. Such a transaction should be conducted only when the importing country is stable, and the exporter fully understands the problems and risks involved and has a trusted agent to look after his interest.

Draft

The draft or the bill of exchange is an unconditional order to a bank or a customer to pay a certain amount of money to somebody on demand or at a fixed time in the future. The person who draws the draft is the drawer while the person to whom the draft is drawn is the drawee. The drawer can instruct the drawee either to pay to the order of ourselves or to the order of somebody else. A draft is either a sight one or a usance one which is also called tenor draft or term draft. In addition, a draft is either a clean one without being accompanied by any documents or a documentary one accompanied by the relevant documents like the bill of lading, the invoice, the packing list, the insurance policy, and the forth.

Documentary Collection and L/C

In terms of documentary collection, the exporter sends the draft and the shipping documents to his bank that forwards them to another bank in the importing country, which contacts the importer in turn. There are two kinds of documentary collection. One is D/P (documents against payment) and the other is D/A (documents against acceptance). As for D/P, documents will not be released to the importer until payment is effected. D/P is divided into D/P at sight and D/P after sight. In line with D/P at sight, the importer has to pay immediately so as to get the documents. In accordance with D/P after sight, the importer is given a certain period of time after the documents are presented, but he can not get the documents until he actually pays for the goods. In the case of D/A, documents are handed over to the importer upon his acceptance of the bill of exchange drawn by the exporter. Payment will

not be made until a later date. D/A is always after sight.

Payment by collection should be accepted cautiously. This mode of payment is usually employed when the importer has sound financial standing, or when the exporter wishes to carry out sale promotion, or when it is a small deal. Otherwise, the letter of credit (L/C) is preferable.

Adapted from *International Payment*

New Words and Expressions

add up to	形成,构成
be acquainted with	1. 了解,知晓(某事) 2. 熟悉,与某人相识,交游甚广的
be entitled to	有……的资格,有权
bid farewell to	向……告别,辞行
bill of exchange	汇票
bill of lading	提单
clean draft	光票
consignment sale	寄售
credit standing	信誉
creditworthiness	*n.* 信誉卓著,有信誉
D/A (documents against acceptance)	承兑交单
default	*n.* 违约,不履行责任
diverse	*adj.* 不同的,变化多的
documentary collection	跟单托收
documentary draft	跟单汇票
D/P (documents against payment)	付款交单
D/P after sight	远期付款交单
D/P at sight	即期付款交单
draft	*n.* 汇票
drawee	*n.* 受票人
drawer	*n.* 出票人
financial standing	财务(财政、信用)状态
financial status	财务(财政、信用)状态
foreign exchange	外汇,外国汇票
forward	*vt.* 1. 转交(to)

	2. 发送，递送(to)
fulfill a contract	履行合同
in accordance with	与……一致，依照
in line with	符合
integrity	*n.* 正直，诚实，完整，完全，完整性
international payment	国际支付
it goes without saying	不用说，不言而喻
language barriers	语言障碍
mode of payment	付款方式
national boundary	国界
negligence	*n.* 疏忽
on demand	1. 在要求时，一经请求
	2. 在要求支付时
open account	记账，未结清的账目，往来账户
packing list	装箱单
pay to the order of ...	付给……指定的人
periodic payments	定期付款
political and economic situations	政治经济形势
release	*vt.* (法律)放弃，让与(权利、财产等)，放松，松开
reluctant	*adj.* 不顾的，勉强的，难得到的，难处理的
sale promotion	推销，推销术
shipping documents	运输单据，船(货)运单据
sufficient	*adj.* 充分的，足够的
tenor draft	远期汇票，期票
term draft	远期汇票，期票
the parties concerned	有关当事人，有关各方
title	*n.* 1. (尤指土地或财产的)所有权，所有权凭证，房地契
	2. 权利，权益
trade barrier	贸易壁垒
unconditional	*adj.* 无条件的，绝对的，无限制的
under control	被控制住，处于控制之下
unreliability	*n.* 不可靠

untrustworthy	*adj.* 不能信赖的，靠不住的
usance draft	远期汇票，期票

Notes

1. International Payment　国际支付

本文改编自《经贸知识英语》一书第 3 课“国际支付”，王学文主编，2000 年 7 月由中国人民大学出版社出版。

2. In international business, purchase and sale of goods and services are undertaken beyond national boundaries, as a result of which the parties concerned in the transaction find it hard to get sufficient information about each other's financial status and creditworthiness.

在国际商务上，货物买卖和服务供求跨越国界进行，结果交易中的有关当事人难以得到足够多的有关彼此财务状况和信誉情况的信息。

此处的 party 指当事人。

3. As a matter of fact, political risks, commercial risks, language barriers and cultural differences all add up to the problems in international business.

事实上，政治风险、商业风险、语言障碍和文化差异都构成了国际商务中的问题。

此处的 add up to 与 amount to 同义，指“形成，构成”之意。

4. Since there exist so many complicated problems and risks, the exporter is reluctant to release the goods before receiving payment while the importer chooses to have the goods under control before bidding farewell to his money.

既然存在这么多复杂的问题和风险，怪不得出口商在收到货款前不愿对货物放手，而进口商愿意在付款前掌控货物。

此处的 release 是“让出货物所有权”的意思；bid farewell to 原意是“向……告别，辞行”，此处指“支付（货款）”。

5. If the exporter and the importer are acquainted with each other, they may do business on open account, which means that there are no documents involved and that the importer is entitled to pay at any time as he likes.

假如出口商和进口商彼此熟悉，他们也许会采用记账的方式进行交易，记账的意思是没有单据，进口商有权在任何时候付款。

open account 意为“记账交易”，这是卖方提供给买方的信贷，而又无任何担保、抵押，卖方风险极大，一般只有卖方充分信任买方时才采用这种交易方式。

6. The exporter may enter into consignment sale if he hopes to hold title or ownership to the goods, which means that the exporter deliver his goods overseas and will not be paid until the goods are sold.

假如出口商希望保留货物所有权，他会进行寄售，寄售是指出口商发货到海外，等货物出售后才得到货款。

此处的 title 指“(货物)所有权”。

enter into consignment sale 意思为“从事寄售交易”。寄售是指出口人把货物委托给其在进口国的代理人或者专营寄售的经纪人来销售，货物售出后代理人或经纪人再将货款交付给委托人并收取佣金。这是一种先发货后出售再收款的风险很大的出口方式。

7. The draft or the bill of exchange is an unconditional order to a bank or a customer to pay a certain amount of money to somebody on demand or at a fixed time in the future.

英文汇票 draft，也可称为 bill of exchange，它是对某银行或客户下达的一个无条件的命令，命令其立即或在未来的某个固定的时间向某人支付一定金额的款项。

8. In terms of documentary collection, the exporter sends the draft and the shipping documents to his bank that forwards them to another bank in the importing country, which contacts the importer in turn. There are two kinds of documentary collection. One is D / P (documents against payment) and the other is D/A (documents against acceptance).

关于跟单托收，出口商将汇票和运输单据寄给其银行，该银行将它们转给进口国的另一家银行，这家银行接洽进口商。有两种跟单托收，一种是 D/P(付款交单)，另一种是 D/A(承兑交单)。

D/P (documents against payment)，付款交单。代收银行在进口人付清票款后才将货运单据交给进口人。按照付款时间的不同，D/P 又分为即期付款交单和远期付款交单。前者指进口人见票立即付款，银行同时放单。后者指进口人见票后立即承兑汇票，等到汇票到期后才真正付款赎单。对出口人来说，D/P 即期比远期安全、有利。

D/A (documents against acceptance)，承兑交单。代收银行在付款人承兑汇票之后即将货运单据交给付款人。而付款人在汇票到期后方才支付票款，

换句话说，出口人在进口人付款之前已经将作为货物所有权凭证的单据交给了进口人，出口人收到款项的保障完全依赖于进口人的信用。所以，对于出口人来说，D/A 比不上 D/P 安全，考虑采用 D/A 时必须特别慎重。

不管是 D/P 还是 D/A，它们都比 L/C 风险大，因为前两个依靠的是进口商的商业信用，第三个依靠的是安全系数相对更高的银行信用。

Exercises

I. Check your comprehension.

1. In international business, how are the purchase and sale of goods and services undertaken?
2. Is it easy for the parties concerned in a transaction to build mutual trust? Why?
3. What specific risks do the exporter and importer face respectively?
4. Before the exporter receives payment and the importer gets the goods, why are they reluctant to fulfill their obligations?
5. Please list at least two modes of payment in international business.
6. What are the similarities and differences between D/P and D/A?

II. Match Column A with Column B.

Column A	Column B
1. clean draft	A. 期票
2. consignment sale	B. 贸易壁垒
3. usance/tenor/term draft	C. 财务(财政、信用)状态
4. trade barriers	D. 寄售
5. shipping documents	E. 定期付款
6. periodic payments	F. 承兑交单
7. financial standing/status	G. 光票
8. D/A	H. 运输单据，船(货)运单据

III. Give the English expressions to the following terms in the table.

<table>
<tr><td></td><td colspan="2">根据即期和远期区分</td><td colspan="2">根据有无跟单区分</td></tr>
<tr><td>1. 汇票
draft or the bill of exchange</td><td>A. 即期汇票</td><td>B. 远期汇票（期票）</td><td>A. 光票</td><td>B. 跟单汇票</td></tr>
<tr><td rowspan="2">2. 跟单托收
documentary collection</td><td>A. 即期付款交单</td><td>B. 远期付款交单</td><td></td><td></td></tr>
<tr><td colspan="2">A. 承兑交单（总是远期的）</td><td></td><td></td></tr>
</table>

IV. Translate the following sentences into Chinese.

1. Both the importer and the exporter face risks because there is the possibility that the other party may not perform his obligations in the contract.
2. For the exporter, there is the risk of buyer default since the buyer might fail to pay in full for the goods.
3. On the part of the importer, there are the risks that the shipment will be delayed by the exporter, and that he might only receive the exporter's goods long after payment. In addition, there is a risk that he might receive wrong or no goods as a result of negligence or lack of integrity of the exporter.
4. In international business, various methods of payment have been developed to deal with different situations such as cash, open account, consignment sale, draft, documentary collection and L/C.
5. Quite a few international transactions are paid for by means of the draft which is either a sight one or a usance one also called a tenor draft or a term draft.
6. The mode of payment by collection should be accepted cautiously and is usually adopted when the importer has sound financial standing, or when the exporter wishes to conduct sale promotion, or when it is a small deal. Otherwise, the letter of credit (L/C) is preferable.

Part B

Mechanical and Electrical Engineering English

CAD and CAM

Computer-aided design (CAD)

Computer-aided design (CAD) is a product of the computer era. It has developed from early computer graphic system to the current interactive computer graphics. At first CAD systems were no more than graphics editor with some built-in design symbols. Three-dimensional CAD system allows a designer to move into the three-dimensional space. Because a three-dimensional model contains enough information for NC cutter-path programming, the linkage between CAD and NC can be developed. So-called turnkey CAD / CAM systems were developed based on this concept and became popular in the 1970s and 1980s. The 1970s marked the beginning of a new era in CAD with the invention of three-dimensional solid modeling. CAD implementations on personal computers (PCs) have brought CAD to the masses. With the standard graphics user interface (GUI), CAD systems can be ported easily from one computer to another. Most major CAD systems are able to run on a variety of platforms. There is little difference between mainframe, workstation, and PC-based CAD systems.

A CAD system consists of three major parts, namely, hardware which is referred to as the computer and input / output (I / O) devices, operating system software, and application software which is the CAD package. Hardware is used to support the software functions. The operating system software is the interface between the CAD application software and the hardware. The application software is he heart of a CAD system. It consists of programs that undertake two-dimensional (2D) and three-dimensional (3D) modeling, drafting, and engineering analysis.

CAD gives the designer the ability to experiment with several possible solutions. The computer provides the designer with a powerful tool for analyzing proposed designs and for preparing formal drawings of the final design. 2 - D drawing is one era in which computer methods can offer significant, quantifiable cost advantages over traditional paper and pen

methods, but a CAD system is not just an electronic drawing board. Computer drawing systems enable designers to produce fast accurate drawings and easily modify them. Finite element is a sophisticated stress analysis technique much used by civil and mechanical engineers. With such a technique, the engineers can divide a structure into small, but finite, components and calculate the force among elements.

CAD makes possible multiview 2D drawings, with an endless possibility of views in a range of scales from microns to meters. Designers have even more freedom with the advent of 3D modeling. They can create 3D parts and manipulate them in endless variations to achieve the desired results. 3D models can be created in wire-frame, in surfaces or in solid form.

The benefits of computer use in drafting and design tasks are impressive: increased speed, greater accuracy, reduction of hardcopy storage space as well as better recall, enhanced communication capabilities, improved quality and easier modification.

Computer-aided Manufacturing (CAM)

When a design has been completed, manufacturing can begin. Computers play an important role in many aspects of production. One of the most important manufacturing function is stock and production control. With the original design to be finished on a computer, obtaining lists of material requirements is straightforward. Standard computer data processing methods are employed to organize the work flow and order components when required.

Part programming software is used to ease programming for CNC machines when a complex part geometry requires calculation of a large number of tool positions. Part programming software is often incorporated into a family of CAM software. Some CAM software is associated with CAD software into CAD/CAM stations. Then the CAM software can use the CAD files as a source of data, which speeds up the programming process. Before a part is machined, the part program needs to be verified, the purposes of which are to detect geometric error of the cutter path, potential tool interference and erroneous cutting conditions. When a part program is generated using a CAD-based system, a graphic output of the cutter path may be produced by the software. By visual inspection, cutter-path abnormalities may be detected.

With the improvement in computer-aided process planning, much emphasis has been placed on eliminating the process planner from the entire planning function. Process planning is the critical bridge between design and manufacturing. Design information can be translated into manufacturing language only through process planning.

With the help of computers, materials requirement planning (MRP) techniques can be adopted to provide much more accurate material information and the manufacturing system can respond to changes more easily than before. The bills of materials can come directly from the CAD system and includes full specifications of each component part, including suppliers. Also, robots which are controlled by computer programs are used in manufacturing. Most manufacturing companies look towards CAD/CAM and CIM (computer integrated manufacturing) to provide flexibility to their manufacturing system. Manufacturing systems are designed both to process parts automatically and to move the parts from machine to machine and sequence the ordering of operations in the system.

A flexible manufacturing system or FMS is a reprogrammable manufacturing system capable of producing a variety of products automatically. The application of numerical control (NC) technology and robotics has provided us with reprogramming capabilities at the machine level with minimum setup time. NC machines and robots provide the basic physical building blocks for reprogrammable manufacturing systems.

Adapted from *CAD and Applications* and *CAM and Applications*

New Words and Expressions

abnormality	*n.* 变态,畸形,异常性
a family of CAM software	计算辅助制造软件包
associate	*vt.* 使发生联系,使联合 *vi.* 交往,结交 *n.* 合作人,同事 *adj.* 副的
bill of material	材料清单,用料单(缩写为 b.o.m.)
building block	*n.* (儿童游戏用的)积木

CIM (computer integrated manufacturing	计算机集成制造
civil engineer	土木工程师
computer-aided process planning	计算机辅助工艺规划
drawing	*n.* 制图,绘图
electronic drawing board	电子绘图板
era	*n.* 时代,纪元,时期,[地理学、地质学]代
experiment	*n.* 实验,试验(on)
	vi. 进行实验,做试验(on/with)
finite element	有限元
flexibility	*n.* 柔性,弹性,灵活性,适应性,机动性
flexible manufacturing system (FMS)	弹性制造系统,柔性加工系统
geometry	*n.* 几何学
graphics user interface (GUI)	图形用户界面
impressive	*adj.* 给人深刻印象的,感人的
interference	*n.* 冲突,干涉
linkage	*n.* 1. 连接,结合,联系
	2. 联动装置
	3. 连锁
look towards	*v.* 面朝,期待
mainframe	*n.* [计算机]主机,大型机
manipulate	*vt.* (熟练地)操作、运用,巧妙地处理
materials requirement planning (MRP) technique	材料需求计划(MRP)技术
mechanical engineer	机械工程师
micron	*n.* 微米
multiview	*n.* 多视图,多视角
NC cutter-path programming	数控(NC)刀具路径编程
part programming software	零件编程软件
quantifiable	*adj.* 可以计量的
robotics	n. 机器人技术
scale	*n.* 数值范围,刻度,衡量,比例
stress	*n.* 应力,受力状态,压力
two-dimensional (2D) and three-dimensional (3D) modeling	二维、三维建模
visual inspection	目测检查

wire-frame	*n.* 线框
with the advent of	随着……的出现、到来
work flow	工作流程
workstation	*n.* 工作站

Notes

1. CAD and CAM　计算机辅助设计和制造

本文改编自《机电与数控专业英语》一书第 8 课 *CAD and Applications*（计算机辅助设计与应用）和第 9 课 *CAM and Applications*（计算机辅助制造与应用）。《机电与数控专业英语》由蒋忠理主编，2003 年 2 月机械工业出版社出版。

2. With the standard graphics user interface (GUI), CAD systems can be ported easily from one computer to another. Most major CAD systems are able to run on a variety of platforms. There is little difference between mainframe, workstation, and PC-based CAD systems.

有了标准图形用户界面(GUI)，CAD 系统可以轻而易举地从一台计算机传送到另一台计算机。大多数 CAD 系统都能在不同平台运行。在大型计算机、工作站和个人计算机用的 CAD 系统三者之间几乎没有什么不同。

此处的 port 是动词，是“传送”的意思。

3. The application software is the heart of a CAD system. It consists of programs that undertake two-dimensional (2D) and three-dimensional (3D) modeling, drafting, and engineering analysis.

应用软件是 CAD 系统的核心，它由进行二维、三维建模、绘图和工程分析的程序组成。

4. Finite element is a sophisticated stress analysis technique much used by civil and mechanical engineers.

有限元是一项成熟的应力分析技术，它多被土木工程师和机械工程师使用。

civil engineer 是“土木工程师”的意思，同样，civil engineering 指“土木工程”。

5. They can create 3D parts and manipulate them in endless variations to achieve the desired results.

他们可以生成三维零件图并且可以无限制地修改图形以获得所需的结果。

此处的 manipulate 是“(熟练地)操作、运用，巧妙地处理”的意思，如 Does your son know how to manipulate a computer? 你儿子会使用电脑吗?

6. Part programming software is used to ease programming for CNC machines when a complex part geometry requires calculation of a large number of tool positions. Part programming software is often incorporated into a family of CAM software. Some CAM software is associated with CAD software into CAD/CAM stations.

当计算机数控(CNC)机床加工一个几何形状复杂的零件需要计算大量刀位时,零件编程软件可用来简化编程。零件编程软件常常并入一个计算机辅助制造软件包内。一些计算机辅助制造软件与计算机辅助设计软件合并成计算机辅助设计和制造工作站。

a family of CAM software 指"计算机辅助制造软件包"。station 指"工作站"。

7. With the help of computers, materials requirement planning (MRP) techniques can be adopted to provide much more accurate material information and the manufacturing system can respond to changes more easily than before.

在计算机的帮助下,材料需求计划(MRP)技术可以用来提供比以往更为精确的材料信息,并且制造系统可以比以前更加容易对变化作出反应。

8. Most manufacturing companies look towards CAD / CAM and CIM (computer integrated manufacturing) to provide flexibility to their manufacturing system. Manufacturing systems are designed both to process parts automatically and to move the parts from machine to machine and sequence the ordering of operations in the system.

大多数制造公司都期望 CAD/CAM 和 CIM(计算机集成制造)系统能使他们的制造系统提高柔性。使制造系统设计成既能自动加工零件又能将零件从一台机床移到另一台机床,并在系统中按顺序指定操作次序。

9. A flexible manufacturing system or FMS is a reprogrammable manufacturing system capable of producing a variety of products automatically.

一个弹性制造系统,或称为 FMS,是一个能自动生产多种产品的可重编程序的制造系统。

Translation Technique — Addition of Proper Words
翻译技巧——增词法

增词法是翻译中常用的一种方法,指在翻译时,为了更加忠实通顺地表达原

文的思想内容，按照意义（或修辞）和句法的需要增加一些原文中无其形但有其意的词语的方法。现摘取上文“CAD and CAM”（《计算机辅助设计和制造》）里的一些句子来具体举例说明增词法在机电英语汉译中的一些应用。

一、按照意义或修辞上的需要增词

（1）The 1970s marked the beginning of a new era in CAD with the invention of three-dimensional solid modeling. 20世纪70年代标志着CAD的一个新时代的开始，那时发明了三维实体建模。

（2）CAD gives the designer the ability to experiment with several possible solutions. 计算机辅助设计给了设计者尝试策划几个可行的解决方案的能力。

（3）Because a three-dimensional model contains enough information for NC cutter-path programming, the linkage between CAD and NC can be developed. 因为三维模型包含了进行数控（NC）刀具路径编程所需的足够信息，所以CAD和NC之间联系的系统能被开发出来。

（4）There is little difference between mainframe, workstation, and PC-based CAD systems. 在大型计算机、工作站和基于个人计算机的CAD系统三者之间几乎没有什么不同。

二、按照句法上的需要增词

（1）With the original design to be finished on a computer, obtaining lists of material requirements is straightforward. 假如原始设计是在计算机上完成的话，那么获得材料需求清单则易如反掌。（增补原文含蓄条件句中的省略部分）

（2）With the help of computers, materials requirement planning (MRP) techniques can be adopted to provide much more accurate material information and the manufacturing system can respond to changes more easily. 在计算机的帮助下，材料需求计划（MRP）技术可以用来提供比以往更为精确的材料信息，并且制造系统可以比以前更加容易地对变化作出反应。（增补原文比较句中的省略部分）

改编自“增词法（一）”和“增词法（二）”

Note

Translation Technique — Addition of Proper Words　翻译技巧——增词法

本文改编自《英汉翻译教程》第四章中的“增词法（一）”和“增词法（二）”。该书由

张培基等人编写，1980 年 9 月上海外语教育出版社出版。

Exercises

I. Fill in the blanks according to the passage of "CAD and CAM".

1. Computer-aided design (CAD) is a product of the _____ era. It has developed from early computer _____ system to the current _____ computer graphics.
2. A CAD system consists of three major parts, namely, _____ which is referred to as the computer and input/output (I/O) devices, _____ ____, and _____ which is the CAD package.
3. The benefits of computer use in drafting and design tasks are impressive: _____, _____, _____ as well as _____ _____, _____, _____ and _____.
4. One of the most important manufacturing function is _____ _____.
5. Part programming software is used to ease _____ for CNC machines when a complex part geometry requires calculation of a large number of _____.
6. Process planning is the critical bridge between _____ and _____. Design information can be translated into manufacturing language only through _____.

II. Answer the following questions briefly.

1. What were CAD systems like at first? What was invented in the 1970s? To whom have CAD implementations on personal computers have brought CAD?
2. How many major parts is a CAD system made up of? What are there?
3. Why is finite element considered useful?
4. Would you please list the benefits of computer use in drafting and design tasks?
5. What is the use of part programming software? What are the purposes of the part program verification before a part is produced?
6. How can FMS be defined as?

III. Translate the following expressions into Chinese or English.

English	Chinese
1. CIM (computer integrated manufacturing)	
2.	材料需求计划
3. three-dimensional (3D) modeling	
4. graphics user interface (GUI)	
5.	工作站
6.	数控(NC)刀具路径编程
7. part programming software	
8.	弹性制造系统,柔性加工系统
9.	[计算机]主机,大型机
10. finite element	

IV. Translate the sentences listed below and the passage of "CAD and CAM" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences

1) It is important not only for CAD software, but also for non-CAD software.

2) I didn't know that CAD and CAM had been employed so widely.

3) Process planning is the critical bridge between design and manufacturing.

4) Because the drawing file is stored in an electronic format and not in a paper format, it is possible to erase a drawing file easily.

2. The passage "CAD and CAM"

Unit 4

Preview

Part A International Business English

The Letter of Credit

The L/C is one mode of payment in international business. Using the L/C, the seller has the security to get paid providing he presents impeccable documents while the buyer has the security to get goods required through the documents he stipulates in the credit, so the bilateral security is characteristic of the L/C. Letters of credit fall under several categories depending on their function, form and mechanism. Though the L/C is not perfect and contracting parties should choose their ideal method of payment according to the specific conditions, the L/C has greatly facilitated and promoted international trade.

Part B Mechanical and Electrical Engineering English

Generators and Motors

Generators turn mechanical energy into electrical energy while motors change electrical energy into mechanical energy. Generators and motors both depend on the same electromagnetic principles for their operations which are the principle of generator action or induction principle, and the principle of motor action.

Translation Technique — Proper Omission of Words

Since there exist some differences between Chinese and English, at times it is

necessary to omit some English words in the Chinese translation of English, which makes the Chinese version not only clear but also concise.

Part A

International Business English

The Letter of Credit

The Letter of credit is a letter issued by a bank at the request of the importer in which the bank promises to pay upon presentation of the relevant documents. It is often abbreviated to L/C or L. C. and is sometimes referred to as "banker's commercial letter of credit", "banker's credit", "commercial credit" or simply "credit". The objective of the L / C is to facilitate international payment by means of the creditworthiness of the bank. This method of payment offers security to both the seller and the buyer. The seller has the security to get paid providing he presents impeccable documents while the buyer has the security to get goods required through the documents he stipulates in the credit. This bilateral security is the unique and characteristic feature of the letter of credit.

In terms of the L/C operation, it begins with the importer that instructs his bank to issue an L / C in favour of the exporter for the amount of the purchase. Here the importer is called the applicant, opener or principal, and so on, the bank which issues the L/C is called the opening bank, the issuing bank or the establishing bank, and the exporter in whose favour the credit is opened is called the beneficiary. The opening bank sends the credit to its correspondent bank in the exporter's country, which will advise the exporter of its receipt after examining the credit. Here the correspondent bank is called the advising bank. The exporter or beneficiary will carefully examine the whole content of the credit and request the opener to amend any discrepancies in the credit if any in order to ensure safe and timely payment. At times the exporter may require a confirmed letter of credit either because the credit amount is too large, or because he does not fully trust the opening bank. The bank that adds its confirmation to the credit is called the

confirming bank. Either the advising bank or another prime bank can act as the confirming bank. When everything concerning the credit is in order, the exporter will prepare the relevant documents based on the credit and deliver the goods to the importer. Then the exporter will present the draft and the accompanying documents to the advising bank that pays or accepts or negotiates the bill of exchange. At this moment the advising bank also becomes the paying bank which works as the agent of the opening bank and gets reimbursed by the opening bank after paying the beneficiary. If a bank, either nominated by the opening bank or at its own choice, buys the exporter's draft submitted to it under a credit, it is called a negotiating bank. The draft and the documents will then be sent to the opening bank for reimbursement.

L/Cs vary in form, length, language and stipulations. The L/C only assures payment to the beneficiary as long as the terms and conditions of the credit are fulfilled, that is, all the documents comply with the stipulations of the credit or are proper on their face. It does not guarantee that the goods purchased will be those invoiced or shipped.

Letters of credit fall under several categories depending on their function, form and mechanism. Here are the major types of credits:

(1) Clean credit and documentary credit: Credits that only require clean draft, i.e. draft not accompanied with shipping documents, for payment are clean credit. They are generally used in non-trade settlement or in payment in advance by means of the L/C. Most of the credits used in international trade are documentary credits, i.e. credits that require shipping documents to be presented together with the draft.

(2) Revocable credit and irrevocable credit: This classification is based on the certainty of the commitment to pay on the part of the applicant and the issuing bank. The credit is a revocable one if such commitments can be altered or even canceled without consulting with the beneficiary. Irrevocable credits are those that cannot be amended or revoked without the consent of all the parties concerned. It must be noted that if there is no specific indication whether a credit is revocable or irrevocable, it should be regarded as irrevocable.

(3) Confirmed credit and unconfirmed credit: If a credit is confirmed by

a bank other than the issuing bank, it becomes a confirmed credit. Under a confirmed credit, the beneficiary is given double assurance of payment since the confirming bank has added its own undertaking to that of the opening bank. If the credit is not confirmed by another bank, it is an unconfirmed credit.

(4) Sight credit and usance credit: A sight credit is one by which payment can be made upon presentation of the draft and impeccable documents by the beneficiary to the bank. It gives the beneficiary better security and helps him speed up his capital turnover. A usance credit, also referred to as term credit or time credit, is one by which payment cannot be made until a specific date or a specific time after the date or after sight.

(5) Transferable credit and non-transferable credit: If a credit can be transferred by the original beneficiary to one or more parties, it is a transferable credit. A credit can be transferred only once. But transferring a credit to more than one party at the same time is allowed provided partial shipments are permitted. If a credit does not specify whether it is transferable, it should be regarded as a non-transferable credit with the goods to be delivered and the documents to be prepared according to the credit stipulations.

(6) Non-draft credit: There is a modern tendency for payment to be made by presentation of the documents without the formality of drawing and presenting a draft. Such credits are non-draft credits. They mainly include payment credit and deferred payment credit which are respectively similar to sight credit and usance credit with the difference that no draft is drawn and presented in the case of non-draft credit.

(7) Revolving credit: If a credit stipulated that its amount can be renewed or reinstated without specific amendment to the credit being made, it is then a revolving credit. It is particularly useful when the buyer and seller have regular trading relationship and deal in a specific quantity of goods each month or during any particular period of time.

The letter of credit has greatly facilitated and promoted international trade. However, like any other methods of payment, it is not perfect. So the contracting parties should choose their ideal method of payment according to the specific conditions.

Adapted from *The Letter of Credit (I)* and *The Letter of Credit (II)*

New Words and Expressions

abbreviate　*vt.* 缩写，缩短，简化，简写成，缩写为(to)
vi. 使用缩略词

accept　*vt.* 承兑

accompany　*vt.* 附随，附在……上

accompanying　*adj.* 附随的，所附的

advise　*vt.* 通知，告知(of)

advising bank　通知行

amend　*vt.* 1. 修订，修改，订正
2. 改进，改善
vi. 改进，改善

applicant　*n.* 申请者，请求者

as long as　只要，在……的时候

beneficiary　*n.* 受惠者，受益人

bilateral　*adj.* 有两面的，双边的

clean credit and documentary credit　光票信用证和跟单信用证(此 credit 指 letter of credit，下同)

confirmed credit and unconfirmed credit　保兑信用证和不保兑信用证

confirming bank　保兑行

contracting parties　合同双方

correspondent　*n.* 通讯员，记者，通信者

correspondent bank　关系行

discrepancy　*n.* 相差，差异，矛盾

fall under　归为……类

guarantee　*n.* 保证，保证书，担保，抵押品
vt. 保证，担保

impeccable　*adj.* 没有缺点的，不会做坏事的

instruct　*vt.* 教，教导，命令，指示，通知

in terms of　根据，按照，用……的话，在……方面

invoice　*n.* 1. 发票
2. (发货或服务)费用清单
vt. 1. 开……的发票，把……开在发票上
2. 把……列入发货清单
vi. 发出发票(或清单)

letter of credit	信用证，常简写为 L/C 或 L.C，有时称作“banker's commercial letter of credit”（银行商业信用证），“banker's credit”（银行信用证），“commercial credit”（商业信用证）或直接称作“credit”（信用证）
negotiate	*vt.* 议付，让渡（支票、债券等）
negotiating bank	议付银行，押汇银行
nominate	*vt.* 提名，推荐，任命，命名
non-draft credit	无汇票信用证
opener	*n.* 开证人，开启的人，开始者
opening bank	开证行，也叫 issuing bank 或 establishing bank
paying bank	*n.* 付款行
prime	*adj.* 最好的，第一流的，主要的
principal	*n.* 委托人
providing (that)	*conj.* 以……为条件，假如，倘若
reimburse	*vt.* 偿还，归还，补偿，赔偿
revocable credit and irrevocable credit	可撤销信用证和不可撤销信用证
revoke	*vt.* 撤销，取消，废除
revolving credit	循环信用证
security	*n.* 担保，保证，安全，保障
ship	*vt.* 装运，装上船，载运
sight credit and usance credit	即期信用证和远期信用证
stipulate	*v.* 规定，保证
submit	*v.* （使）服从，（使）顺从 *vt.* 提交，递交
term credit	远期信用证（英文也称为 usance credit，time credit）
transferable credit and non-transferable credit	可转让信用证和不可转让信用证

Notes

1. The Letter of Credit　信用证

本文改编自《经贸知识英语》一书第 4 课 *The Letter of Credit*（*I*）（信用证

(I))和第5课 *The Letter of Credit (II)*(信用证(II))。该书由王学文主编，2000年7月中国人民大学出版社出版。

2. The objective of the L/C is to facilitate international payment by means of the creditworthiness of the bank. This method of payment offers security to both the seller and the buyer. The seller has the security to get paid providing he presents impeccable documents while the buyer has the security to get goods required through the documents he stipulates in the credit. This bilateral security is the unique and characteristic feature of the letter of credit.

信用证的宗旨是利用银行信誉方便国际支付。这种支付方法向买卖双方提供了担保。卖方只要提交了准确无误的单据就保证能得到货款，而买方通过他在信用证里规定的单据保证能得到所要的货物。这种双边担保是信用证独一无二的典型特点。

3. In terms of the L/C operation, it begins with the importer that instructs his bank to issue an L/C in favour of the exporter for the amount of the purchase.

关于信用证的运作，它始于指示银行开立以出口人为受益人的载明购货金额的信用证的进口人。

in terms of 意思为"根据、按照、用……的话、在……方面"，如 He referred to your work in terms of high praise. 他对你的工作大加赞扬；He thought of everything in terms of money. 他是从钱的角度来看每一件事。

4. If a bank, either nominated by the opening bank or at its own choice, buys the exporter's draft submitted to it under a credit, it is called a negotiating bank. The draft and the documents will then be sent to the opening bank for reimbursement.

假如一家银行由开证行指定或自己主动买下出口人递交给它的信用证项下的汇票的话，这家银行叫做议付行。之后，议付行将汇票和单据寄给开证行以得到偿还。

5. L/Cs vary in form, length, language and stipulations. The L/C only assures payment to the beneficiary as long as the terms and conditions of the credit are fulfilled, that is, all the documents comply with the stipulations of the credit or are proper on their face. It does not guarantee that the goods purchased will be those invoiced or shipped.

各种信用证的形式、长度、语言和规定不同。只要履行信用证条款，即所有单据与信用证规定相符，或者说只要单据表面没问题，信用证就保证向受益人

付款，它并不担保所购货物就是那些发票所开或载运的货物。

6. Letters of credit fall under several categories depending on their function, form and mechanism.

信用证根据其作用、形式和机制的不同而分成几类。

fall under 的意思为“归为……类”，如 Which category does this item fall under? 这一项目应归入哪一类？

7. If a credit is confirmed by a bank other than the issuing bank, it becomes a confirmed credit. Under a confirmed credit, the beneficiary is given double assurance of payment since the confirming bank has added its own undertaking to that of the opening bank. If the credit is not confirmed by another bank, it is an unconfirmed credit.

如果信用证被开证行以外的一家银行保兑，那么这个信用证便成为保兑信用证。在保兑信用证中，受益人得到双重付款保证，因为保兑银行在开证行承担付款义务的基础上又加上了自己的承诺。如果信用证未经另外一家银行保兑，那么它便是不保兑信用证。

此处的 confirm 是“保兑”的意思。

Exercises

I. Check your comprehension.

1. What is the definition of the letter of credit? Give the abbreviated forms and some other names of the Letter of Credit.

2. What is the objective of the L/C and its unique and characteristic feature?

3. What role does the importer play in terms of the operation of the L/C?

4. Why does the exporter require a confirmed L/C sometimes?

5. In what conditions does the L/C assure payment to the beneficiary? Does the L/C guarantee that the goods purchased are those invoiced or shipped?

6. What factors have been taken into account in the passage for credit classification? What are the major types of credits?

II. Match Column A with Column B.

Column A	Column B
1. letter of credit	A. 议付行
2. negotiating bank	B. 受益人

（续表）

Column A	Column B
3. issuing bank	C. 信用证
4. beneficiary	D. 汇票
5. invoice	E. 关系行
6. bill of exchange	F. 开证行
7. correspondent bank	G. 申请人
8. applicant	H. 发票，把……开在发票上

III. Give one or more English expressions according to the following requirements.

1. 要求开立信用证的进口人	A.	B.	C.
2. 开证行	A.	B.	C.
3. 使用信用证得到付款的出口人	A.		
4. 开证行在出口地的关系行或叫通知行	A.	B.	
5. 保兑行	A.		
6. 付款行	A.		
7. 议付行	A.		

IV. Translate the following sentences into Chinese.

1. The Letter of credit in which the issuing bank promises to pay upon presentation of the relevant documents is often abbreviated to L/C or L. C. and is sometimes referred to as "banker's commercial letter of credit", "banker's credit", "commercial credit" or simply "credit".

2. The beneficiary will carefully examine the credit and request the opener to amend any discrepancies in the credit if any so that safe and timely payment can be ensured.

3. Clean credit and documentary credit are generally used in non-trade settlement or in payment in advance by means of the L/C. Most of the

credits used in international trade are documentary credits, that is, credits that require shipping documents to be presented together with the draft.

4. It must be pointed out that if there is no specific indication whether a credit is revocable or irrevocable, it should be viewed as an irrevocable one.
5. If a letter of credit does not specify whether it is transferable or not, it should be considered to be a non-transferable credit, and the delivery of the goods and the preparation of the documents have to be performed according to the credit stipulations.
6. The revolving credit is particularly useful when the importer and exporter have regular trading relationship and deal in a specific quantity of goods each month or during any particular period of time.

Part B

Mechanical and Electrical Engineering English

Generators and Motors

Generators turn mechanical energy into electrical energy whereas motors change electrical energy into mechanical energy. Generators and motors depend on the same electromagnetic principles for their operations which are the principle of generator action or induction principle, and the principle of motor action.

In respect of generator action or induction, voltage is induced into a wire in a magnetic field when the magnetic flux is cut by the wire, and then there arises the motion of the wire or the field or both. The mechanical energy leads to the motion which causes electricity generation. When it comes to motor action, it is merely the mechanical forces between magnets. When two magnets or electromagnets approach each other, one will be either pulled towards or pushed away from the other. All the generators and motors have two main parts each that are the stationary stator and the rotor which is mounted on bearings so that it can rotate. The rotor shaft sticks out beyond the housing. The shaft is coupled with a prime mover when a generator is concerned, but with a mechanical load when a motor is involved.

The input power to a generator is mechanical power that prime movers apply to turn the rotor. This turning force is known as the torque which is in direct proportion to both the force applied and the distance between the force applied and the centre of the shaft. The more the force applied is, the greater the torque turns. Also, the longer the crank handle gets, the greater the torque becomes. The equation is "Torque (T) = force (F) × distance (D)". The generator whose output is a direct current (DC) is called a DC generator whereas the one whose output is an alternating current (AC) is called an alternator.

The input power to a motor is electrical power. Voltage is applied to the terminals of a motor, which results in a current. The output power of a motor is mechanical power and it is transmitted by the rotor shaft as a torque which is employed to rotate a load, such as a fan or a pump. To drive a load at a particular speed, one needs a certain amount of torque. Torque requirement is one of the most important factors which should be taken into account in choosing a motor.

Adapted from *Generators and Motors*

New Words and Expressions

alternate	*vt.* 交替,轮流
alternating current (AC)	交流电
alternator	*n.* 交流发电机
bearing	*n.* 轴承
be coupled with	与……连接
be in direct proportion to	与……成正比例
couple	*vt.* 连合,连接
crank	*n.* 曲柄
crank handle	手摇曲柄
DC generator	直流发电机
direct current (DC)	直流电
electrical power	电力,电源,电功率
electromagnetic	*adj.* 电磁的
flux	*n.* 磁力线,磁通量,流量,通量

generator	*n.* 发电机,发生器
generator action	发电机作用
housing	*n.* 套,壳,住房建筑
induce	*vt.* 感应
induction	*n.* 感应,感应现象
magnetic field	磁场
magnetic flux	磁通量
mechanical load	机械载荷
mechanical power	机械功率
motion	*n.* 运动,动作
motor	*n.* 发动机,电动机
motor action	电动机作用
mover	*n.* 发动机,原动力
prime mover	原动机
rotate	*v.* (使)旋转
rotor	*n.* [机]转子,回转轴,转动体
rotor shaft	转轴
shaft	*n.* 轴,车杠
stationary	*adj.* 不动的,静止的,固定的
stator	*n.* 定子,固定片
stick out	伸出,突出
torque	*n.* 扭(力)矩,转(力)矩
torque requirement	转矩要求

Notes

1. Generators and Motors　发电机和电动机

本文改编自《电力专业英语(第三版)》第2课 *Generators and Motors*(发电机和电动机)。该书由刘然、包兰宇、景志华编著,2009年4月由中国电力出版社出版。

2. Generators turn mechanical energy into electrical energy whereas motors change electrical energy into mechanical energy.

发电机将机械能转化成电能,而电动机将电能转化成机械能。

3. When two magnets or electromagnets approach each other, one will be either pulled towards or pushed away from the other.

当两块磁铁或电磁铁彼此靠近时，它们不是相吸就是相斥。

4. The shaft is coupled with a prime mover when a generator is concerned, but with a mechanical load when a motor is involved.

对于发电机来说，转轴连接原动机，对于电动机来说，转轴连接机械载荷。

be coupled with 意为“与……连接”，如 Her name was coupled with his. 她的名字与他的连在了一起；Her patience, coupled with his intelligence, overcame all difficulties. 她的耐心，配上他的智慧，克服了一切困难。

5. The input power to a generator is mechanical power that prime movers apply to turn the rotor.

输入发电机的是机械功率，原动机运用机械功率转动转子。

6. This turning force is known as the torque which is in direct proportion to both the force applied and the distance between the force applied and the centre of the shaft.

这个转动力被称为转矩，转矩跟施加的力与施加的力离开转轴中心的距离这两者成正比。

be in direct proportion to 意为“与……成正比例”，如 Generally speaking, achievement is in direct proportion to hard work without any other hindrances. 一般来说，若无其他任何阻碍的话，成就与努力成正比。

Translation Technique — Proper Omission of Words
翻译技巧——省词法

由于汉、英语言之间存在着差异，所以英译汉时，有时需要用到省词法，即，将英文翻译成汉语时，省略一些英文词语，一则省略了后译文意思也已经很明白了，无其词有其意，不言自明。二则译文言简意赅。现摘取上文“Generators and Motors”(《发电机和电动机》)里的一些句子来具体举例说明省略法在机电英语汉译中的一些应用。

一、省略代词

When it comes to motor action, it is merely the mechanical forces between magnets. 说到电动机作用，它只是磁铁之间的机械力作用。

To drive a load at a particular speed, one needs a certain amount of torque. 若要以特定速度驱动载荷，需要一定量的转矩。

二、省略动词

The more the force is, the greater the torque turns. Also, the longer the

crank handle becomes, the greater the torque gets. 力愈大,转矩愈大。并且,手柄愈长,转矩愈大。

三、省略虚词

In terms of generator action or induction, voltage is induced into a wire in a magnetic field when the magnetic flux is cut by the wire, and then there arises the motion of the wire or the field or both. 关于发电机作用或称感应,当磁力线被磁场里的线圈切割时线圈产生感应电压,然后线圈或磁场或两者都运动起来。(省略了连接词)

Generators and motors depend on the same electromagnetic principles for their operations. 发电机和电动机都依靠相同的电磁原理运行。(省略了冠词)

The mechanical energy leads to the motion which causes electricity generation. 机械能产生运动,运动产生电。(省略了冠词)

除了以上情况外,有时在意思明晰的情况下,也可以省略重复出现的部分(如在比较句中)或其他可有可无的词。

改编自"省略法"和"省略词语"

Note

Translation Technique — Proper Omission of Words 翻译技巧——省词法

本文改编自《英汉翻译教程》第四章中的"省略法"和《新编英汉互译教程》第二篇中的"省略词语"。《英汉翻译教程》由张培基等人编写,1980 年 9 月上海外语教育出版社出版;《新编英汉互译教程》由谭卫国和蔡龙权主编,2009 年 2 月华东理工大学出版社出版。

Exercises

I. Fill in the blanks according to the passage of "Generators and Motors".

1. Generators and motors can not operate without depending on _____ _____ which are _____ or _____ ____, and _____.
2. As far as generator action or _____ is concerned, voltage is induced into a wire in a _____ when the magnetic _____ is cut by the wire, and then the motion of _____ arises. The mechanical energy brings about the motion which leads to _____

_____. When it comes to motor action, it is merely _____ between magnets.

3. All the generators and motors have two main parts each that are referred to as _____ and _____ which is mounted on _____ ____ in order that it can rotate.
4. The generator whose output is a direct current (DC) is called _____ _____ while the one whose output is an alternating current (AC) is called _____.
5. The input power to a motor is _____ whereas the output power of a motor is _____.
6. If one wants to drive a load at a particular speed, he is in need of a certain amount of _____. Torque requirement is one of the most important factors which should be taken into account in choosing a _____.

II. Answer the following questions briefly.

1. What can generators and motors do respectively when mechanical energy and electrical energy are concerned?
2. What same principles do generators and motors depend on for their operations.
3. How do you understand generator action or induction, and motor action?
4. What is the torque? How many factors affect the torque? What are they?
5. In what condition is a generator called a DC generator and in what case is a generator known as an alternator?
6. When one selects a motor, what should be considered to be one of the most important factors?

III. Translate the following expressions into Chinese or English.

English	Chinese
1. torque	
2.	发电机作用或称感应
3. AC current	
4. motor action	
5.	直流发电机

（续表）

English	Chinese
6. mechanical power	
7. prime mover	
8.	转轴
9.	定子
10. mechanical load	

IV. Translate the sentences listed below and the passage of "Generators and Motors" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences

1) When you tighten a nut on a bolt, you apply torque with a wrench.（省略代词）

2) After you turn on a light, the room gets brighter.（省略代词和动词）

3) Benjamin Franklin thought that there were two kinds of electrical fluid which he called positive and negative electricity.（省略引导词）

4) Electrical energy is somewhat like kinetic energy, which is the energy of motion.（省略冠词）

5) Both the wire and the field are in motion but not at different speeds.（省略介词）

2. The passage "Generators and Motors"

Unit 5

Preview

Part A International Business English

Insurance

In international trade, the geographical gap as well as the time gap may bring about serious risks. Insurance is a social device which people employ to transfer risk and provide for payment of losses from funds contributed by all the people who have transferred risk. In insurance, some principles must be observed such as the principle of insurable interest, the principle of utmost good faith, the indemnity principle, the contribution principle, the subrogation principle, and the principle of proximate cause.

Part B Mechanical and Electrical Engineering English

Software Engineering

How can software engineering be defined? It can be defined as the application of tools, methods and disciplines to produce and maintain an automated solution to a real-life problem. It takes a considerably long period of time to complete a large-scale software project. In general, the whole process can be separated into five key phases which are the requirement definition, design, implementation, testing and program maintenance. Software design can be considered in the same way. In software engineering, object-oriented methodology is applied to system lifecycle development.

Translation Technique — Expansion and Division

Among various translation techniques, "expansion and division" is one which will change the original sentence structure. In translation from English to Chinese, sometimes this technique is needed in two cases for the purpose of ensuring that the Chinese version is smooth, clear, and faithful to the original text. One case is when some words or phrases in English are to be translated into simple sentences or clauses; or there is the time when one English sentence is to be translated into two or more Chinese sentences.

Part A

International Business English

Insurance

Insurance is a social device in which people transfer risk and provide for payment of losses from funds contributed by all the people who have transferred risk. Those who transfer risk are called insureds while those who assume risk are called insurers. In return for a known premium which is usually a very small sum of money compared with the potential loss, either the full amount of the loss or a specified percentage of the loss can be restored to the insured. The insured's premium is received by the insurer into a fund or common pool for the type of risk covered and the claims of those suffering losses are paid out of this pool.

In international trade, the geographical gap as well as the time gap may result in serious risks. In such a case, the insurance underwriters operate to take in hand the risks which will otherwise be borne by the traders. Cargo insurance is an activity aimed at moving the burden of risk from the shoulders of the exporters and importers, and putting it on the shoulders of specialist risk-bearing underwriters.

In insurance, some principles must be observed. The principle of insurable interest holds that nobody may insure anything unless he has an interest in it, which means that if the thing insured is preserved he will benefit from its preservation, but if it is in any way damaged or lost the

insured will be adversely affected. According to the principle of utmost good faith, those who decide what premium is fair for a particular cover do so on the basis of written statements made in a proposal form. If this statement is untrue, then the premium agreed on will be unfair, and the mis-statement will be viewed as a fraud and the policy will be voidable. In line with the indemnity principle, a contract of insurance is one which restores a person who suffered a loss into the same position as he was in before the loss occurred. As far as a normal policy of insurance is concerned, the compensation payable is only enough to restore the insured to the position he was in before the loss befell, but not to a better position. Cargo policies are often called valued policies, which means that the compensation payable will be at an agreed figure, often at invoiced cost plus freight and forwarding charges plus the insurance premium plus an agreed percentage such as 10 percent. This percentage stands for a profit that could be earned on the basis of the capital tied up in the deal. The contribution principle is associated with the indemnity principle. It stipulates that a person can not be allowed to insure twice for the same risk and claim compensation from both insurers. Otherwise it will be a breach of indemnity. The subrogation principle, also connected with the indemnity principle, is of much importance in cargo insurance. It refers to circumstances in which an insurer tries to recoup expenses for a claim it paid out when another party should have been responsible for paying at least a portion of that claim. In terms of the principle of proximate cause, it means that when an insurance policy is signed to cover a certain risk, a claim becomes payable only if that risk occurred as the proximate cause of the loss suffered. The proximate cause is the direct cause of the loss.

Adapted from *Insurance (I) and Insurance (II)*

New Words and Expressions

adversely	*adv.* (相)逆地,反对地
assume	*vt.* 承担
assume risk	承担风险
breach	*n.* 违反,不履行

cargo policy	货物保险单,货物保单
claim	*n.* (尤指向公司、政府等)(根据保险政策、赔偿法等)要求的付款、索款、索赔
	vt. & *vi.* 对……提出要求,索取,索赔
common pool	共同的(保险)基金
contribution	*n.* 分摊
cover	*vt.* 给……保险,承保,弥补,抵偿(损失等)
forwarding charges	交货费用,转运费
freight	*n.* 运费
freight and forwarding charges	运输费
indemnity	*n.* 损失赔偿,赔款,补偿
insurable interest	可保权益
insurance premium	保险费
insured	*n.* 投保人,被保险者,保户
insurer	*n.* 承保人,保险业者,保险公司
known	*adj.* 已知的
	vbl. know 的过去分词
percentage	*n.* 百分数,百分率,百分比
pool	*n.* 统筹的资金,共同款项
potential loss	潜在损失
premium	*n.* 保险费
preserve	*vt.* 保存,保护,保持
provide for	作准备,供养,规定
proximate	*adj.* 最近的
proximate cause	近因
recoup	*vt.* 追讨回,收回,取回
restore	*vt.* 恢复,使回复
specify	*vt.* 指定,详细说明,列入清单
subrogation	*n.* [法律]代位,代位追偿,代位偿清,取代
take ... in hand	承担,处理,尝试,接管
transfer	*v.* 转移
transfer risk	转移风险
underwriter	*n.* 保险业者,承诺支付者,保险商
utmost good faith	最大诚信
valued policy	有价保险单,有价保单

voidable　　*adj*. 可使无效的，得撤销的

Notes

1. Insurance　保险

本文改编自《经贸知识英语(第二版)》第 10 课 *Insurance*（*I*）(保险(I))和第 11 课 *Insurance*（*II*）(保险(II))。该书由王学文主编，2000 年 7 月中国人民大学出版社出版。

2. Insurance is a social device which people employ to transfer risk and provide for payment of losses from funds contributed by all the people who have transferred risk.

保险是一种社会机制，在此机制下人们转移风险并从转移风险的所有人所缴纳的基金中提供损失赔偿金。

provide for 意思为“作准备，供养，规定”，如 He worked hard to provide for his old age. 他努力工作为养老做准备；He believed that he had provided for every possible hazard. 他认为他已经准备好了应付每一种可能的危险；Every possible risk has been provided for in this project. 此方案对各种可能发生的风险都作了准备；The agreement provided for a cease-fire. 协议规定停火；The plan provided for the rich to assist the poor. 那项计划要求富人向穷人提供帮助。

3. In such a case, the insurance underwriters operate to take in hand the risks which will otherwise be borne by the traders.

在这样的情况下，保险公司就承担起了本应由贸易者承担的风险。

take ... in hand 意思为“承担，处理，尝试，接管”，如 When the Export Department began to fail, Mr. Smith took it in hand and made a success of it. 当商品出口部不景气的时候，史密斯先生接管了它并取得了成功。

4. Cargo insurance is an activity aimed at moving the burden of risk from the shoulders of the exporters and importers, and putting it on the shoulders of specialist risk-bearing underwriters.

货物保险是一种旨在将风险从进口商和出口商的肩上转移到专门承担风险的保险业者身上的活动。

5. The principle of insurable interest holds that nobody may insure anything unless he has an interest in it, which means that if the thing insured is preserved he will benefit from its preservation, but if it is in any way

damaged or lost the insured will be adversely affected.

可保权益原则认为只有在一件事情中有利益才可以投保。这意味着，假如投保的东西得到了保护，投保人就会从这种投保中得益。但假如它不管以何种方式受到损坏或被丢失，投保人就会受到负面影响。

6. According to the principle of utmost good faith, those who decide what premium is fair for a particular cover do so on the basis of written statements made in a proposal form. If this statement is untrue, then the premium agreed on will be unfair, and the mis-statement will be viewed as a fraud and the policy will be voidable.

按照最大诚信原则，人们根据提议形式的书面声明，决定某项保险的保险费是否合理。如果这份声明不真实，那么商定的保险费就不会合理。错误的声明会被视作是欺诈，并且保险单会无效。

7. In line with the indemnity principle, a contract of insurance is one which restores a person who suffered a loss into the same position as he was in before the loss occurred. As far as a normal policy of insurance is concerned, the compensation payable is only enough to restore the insured to the position he was in before the loss befell, but not to a better position.

按照赔偿原则，保险合同是一份将受损人的利益恢复到发生损害前的同等状况的合同。就一份正常的保险单而言，付出的赔偿只是将投保人的利益恢复到受害前的状态，但不会好于这种状态。

8. The contribution principle is associated with the indemnity principle. It stipulates that a person can not be allowed to insure twice for the same risk and claim compensation from both insurers. Otherwise it will be a breach of indemnity.

损失费用分摊原则与赔偿原则相关联。该原则规定同样的风险不能投保两次，不能从两个承保人那里获取赔偿金，否则会违反赔偿原则。

9. The subrogation principle, also connected with the indemnity principle, is of much importance in cargo insurance. It refers to circumstances in which an insurer tries to recoup expenses for a claim it paid out when another party should have been responsible for paying at least a portion of that claim.

也与赔偿原则有关的代位追偿原则，在货物保险上非常重要。它所指的情况是当投保人和承保人以外的第三方应负责赔付至少一部分投保人提出的

索赔额时，承保人尽力向第三方追讨回承保人已付出的这部分索赔额。

10. In terms of the principle of proximate cause, it means that when an insurance policy is signed to cover a certain risk, a claim becomes payable only if that risk occurred as the proximate cause of the loss suffered. The proximate cause is the direct cause of the loss.

关于近因原则，它指的是签发的保单要承保某种险别，只有发生的风险是造成损失的直接原因时才能得到赔偿。近因就是导致损失的直接原因。

Exercises

I. Fill in the blanks according to the passage of "Insurance".

1. The insured's premium is received by the insurer into a _____ or _____ for the type of _____ covered and the _____ of those suffering losses are paid out of this pool.

2. In international trade, the _____ gap as well as the _____ gap may result in serious _____.

3. In insurance, some important principles must be complied with which are _____, _____, _____, _____, _____, and _____.

4. When it comes to a normal policy of insurance is concerned, the compensation payable is only enough to restore _____ to the position he was in before the _____ befell, but not to a _____ position.

5. Cargo policies are often issued for an agreed value and are therefore called _____. The value is often at _____ plus _____ and _____ plus _____ plus an agreed _____ such as 10 percent. This percentage stands for a _____ that could have been earned on the basis of the capital tied up in the deal.

6. In line with the doctrine of proximate cause in insurance, the proximate cause is the _____ cause of the loss. Otherwise, the _____ will not compensate the claim put forward by the _____.

II. Check your comprehension.

1. What is the function of insurance?

2. How much is the insurance premium? And how much can the insured

regain from the insurer to cover his loss after he pays a known premium?

3. What factors are very harmful to international trade?
4. Would you please tell the aim of cargo insurance? What is it?
5. Please list the insurance principles mentioned in the passage.
6. How do you understand the principle of utmost good faith and the principle of subrogation?

III. Match Column A with Column B.

Column A	Column B
1. insurance premium	A. 赔偿
2. insurable interest	B. 有价保单
3. indemnity	C. 运输费
4. geographical gap	D. 近因
5. valued policy	E. 可保权益
6. freight and forwarding charges	F. 共同基金
7. proximate cause	G. 地域间隔
8. common pool	H. 保险费

IV. Translate the following sentences into Chinese.

1. Insurance is a risk transfer mechanism, by means of which individuals or enterprises can transfer some of the uncertainties of life onto the shoulders of others.
2. There are three basic types of insurance which are free from Particular Average (F.P.A.), with particular average (W.A. or W.P.A.) and all risks.
3. Normally, the compensation paid by the insurer is only enough to restore the insured to the position he was in before the loss befell.
4. According to the principle of insurable interest, those who have no interest in something are not entitled to insure it.
5. In accordance with the principle of utmost good faith, even if the misstatement in an insurance policy is unintentional, the policy will be voidable because the insurer will be deceived.
6. According to the doctrine of proximate cause, the insurer will not compensate the claim for loss for which the risk covered is not the proximate cause.

Part B

Mechanical and Electrical Engineering English

Software Engineering

Software engineering can be defined as the application of tools, methods and disciplines to produce and maintain an automated solution to a real-life problem. It demands the identification of a problem, a computer to put a software product into execution, and an environment (consisting of people, equipment, computers, documentation and otherwise) where the software product exists. Evidently, without computer programs, there would be no software product and no software engineering. However, this is not a sufficient condition but a necessary one.

It takes a considerably long period of time to complete a large-scale software project. The whole process can be separated into a number of distinct phases. When those phases are put together, they constitute the so-called software life cycle which is a fundamental concept in software engineering. It has been generally agreed that there are five key phases in the cycle.

The first phase is the requirement definition which means the period during which the requirements of the system desired, namely, its functional characteristics and operational details, are spelled out. The input to this phase is the stated needs for the software. It is essential that errors should not be permitted to slip into subsequent phases if any. Creativity is characteristic of the second phase, design. Though some people argue that creativity is congenital and cannot be trained or improved, it can certainly be enhanced by the use of good procedures and tools. The input to this phase is debugged and validated requirements document, and the output is a design expressed in some proper form. The third phase is implementation which is the actual coding of the design developed in the second phase. The fourth phase is testing which demonstrates whether the implemented program is correct or not. There are two types of testing: black box and white box. Black box testing is conducted by the system test engineer and the user while white box testing is the responsibility of the programmer who knows exactly what is

going on inside the program. The programmer must ensure that every instruction and every possible situation have been tested, which is no easy task. Unavoidably, some testing is performed as part of the previous two phases as well. The fifth phase is the program maintenance which involves the repair of design defects instead of the repair of deteriorated components in hardware maintenance. The repair of design defects may include the provision of added functions to satisfy new needs.

Software design can be considered in the same way. To transform requirements into a working system, designers must satisfy both customers and the system builders in the development team.

In software engineering, object-oriented methodology is applied to system lifecycle development that takes a top-down view of data objects, their allowable actions, and the underlying communication requirement to define system architecture. Object-orientation appears to be one effective method for designing real-time applications and online applications.

Adapted from *Software Engineering*

New Words and Expressions

and otherwise	等等
architecture	*n.* 电脑内部结构,结构,构造
automated solution	自动化解决方案
be characteristic of	是……的特色/特征
black box testing	黑箱测试
congenital	*adj.* 先天的,天生的
debug	*vt.* 1. 拆除窃听器 2. 排错,排除故障
deteriorate	*vi.* 恶化,变坏,退化 *vt.* 使恶化,使变坏,使退化
development team	(程序)开发小组
discipline	*n.* 行为准则,纪律,学科 *v.* 训练
documentation	*n.* 文件,文档
enhance	*vt.* 提高,增加,加强
fundamental	*adj.* 基本的,重要的,必要的

	n. 基本原则，基本法则
identification	*n.* 识别，辨认，鉴定，证明，视为同一
methodology	*n.* 一套方法 方法学，方法论
necessary condition	必要条件
object-orientation	面向对象，物件导向
object-oriented methodology	面向对象的方法学/方法论
orientation	*n.* 方向，目标，熟悉情况，适应
phase	*n.* 阶段，时期
put ... into execution	实行，完成，执行
real-life problem	现实生活中的问题，实际生活中的问题
real-time	*adj.* [计算机]即时处理的，实时的
software engineering	软件工程
software life cycle	软件生命周期
subsequent	*adj.* 随后的，继……之后的
sufficient condition	充分条件
system architecture	系统/体系结构
system builder	系统构造程序，系统构造师
top-down	*adj.* 组织管理严密的，自上而下的
underlie	*vt.* 位于或存在于(某物)之下 构成……的基础(或起因)，引起
validate	*vt.* 证实，确证 使生效，使有法律效力
white box testing	白箱测试

Notes

1. Software Engineering　软件工程

本文改编自《计算机英语》第5单元 *Software Engineering*(软件工程)。该书由吴冰主编，2007年6月航空工业出版社出版。

2. Software engineering can be defined as the application of tools, methods and disciplines to produce and maintain an automated solution to a real-life problem.

软件工程可以被定义为用工具、方法和规则去产生和维护针对一个现实生活中问题的一个自动化解决方案。

3. It takes a considerably long period of time to complete a large-scale software project. The whole process can be separated into a number of distinct phases. When those phases are put together, they constitute the so-called software life cycle which is a fundamental concept in software engineering.
完成一项大规模的软件工程需要跨越相当长的时间。这整个过程可以划分成一些不同的阶段。这些阶段一起构成了所谓的软件生命周期，软件生命周期是软件工程上的一个基本概念。
4. The input to this phase is debugged and validated requirements document, and the output is a design expressed in some proper form.
这个阶段输入的是已调试且有效化了的需求文档，输出的是以某种合适的形式表示的一个设计。
validate 意思是“证实，确证，使生效，使有法律效力”，如 You need an official signature to validate the order. 你要有正式的签字，这张汇票才能生效；In order to validate the agreement, both parties sign it. 为使协议有效，双方在上面签了字。
5. To transform requirements into a working system, designers must satisfy both customers and the system builders in the development team.
为了将各个需求转变成为一个工作系统，设计师们必须使顾客和程序开发小组里的系统构造师都满意。
6. In software engineering, object-oriented methodology is applied to system lifecycle development that takes a top-down view of data objects, their allowable actions, and the underlying communication requirement to define system architecture.
在软件工程上，面向对象的方法学被用来开发系统生命周期，在开发中对各数据对象、其允许的动作和基本的通信需求采取一种自上而下的方法来定义一个系统的结构。

Translation Technique — Expansion and Division
翻译技巧——分译法

在变化多样的翻译技巧中，分译法是改变原文句子结构的一种。英译汉时，有时需要采用分译法这种技巧，一种情况是将英语句中的某些单词或词组译为汉语的单句或分句，另一种情况是将一个英语句子译为汉语的两个或两个以上

的句子，这样做旨在确保汉译文既通顺明晰，又忠实于原文。

好多学者专家对分译法进行了阐述。把原句中较长的修饰语单独译为一句或几句，这种翻译法称为分译法（林相周，1998）。英语长句较多，而汉语句子一般比较短。为了符合汉语表达习惯，常可将英语长句拆开来翻译（范仲英，1994）。有时，英语长句中的主句和从句或主句与修饰语之间的关系并不十分密切，翻译时可以按照汉语多用短语的习惯，把长句中的从句或短语化为句子，分开来叙述；为了使语义连贯，有时应适当增加词语（张培基，1980）。

现摘取上文“Software Engineering”（《软件工程》）里的一些句子来具体举例说明分译法在机电英语汉译中的一些应用。

一、将英语单词或词组译为汉语单句或分句

Evidently, without computer programs, there would be no software product and no software engineering. 要是没有计算机程序就不会有软件产品，也不会有软件工程，这是显而易见的事。

However, this is not a sufficient condition but a necessary one. 然而，这不是充分条件，只是必要条件。

二、将一个英语句子译为汉语的两个或两个以上的句子

The first phase is the requirement definition which means the period during which the requirements of the system desired, namely, its functional characteristics and operational details, are spelled out. 第一个阶段是需求定义，它指的是清楚说明系统所希望的需求即其功能特性和运行细节的这个阶段。

The fifth phase is the program maintenance which involves the repair of design defects instead of the repair of deteriorated components in hardware maintenance. 第五阶段是程序维护，它涉及的是对设计缺陷的修复，而不涉及硬件维护时对已损坏部件的修复。

改编自“分句法”和“分译法在翻译中的运用”

Note

Translation Technique — Expansion and Division　翻译技巧——分译法

本文改编自《英汉翻译教程》第五章中的“分句法”和《新编英汉互译教程（第二版）》第二篇中的“分译法在翻译中的运用”。前者由张培基等人编写，1980 年 9 月上海外语教育出版社出版；后者谭卫国和蔡龙权主编，2009 年 2 月华东理工大学出版社出版。

Exercises

I. Fill in the blanks according to the passage of "Software Engineering".

1. Software engineering demands the identification of a _____, a _____ to put a software product into execution, and an environment (consisting of _____, _____, _____, _____ and otherwise) where the software product exists. Evidently, without computer programs, there would be no software product and no _____. However, this is a _____ condition instead of a _____ one.
2. It has been generally agreed that the five key phases in the software life cycle are as follows:
   1) _____;
   2) _____;
   3) _____;
   4) _____;
   5) _____.
3. Design, the second phase in the software life circle has one unique feature, that is, _____.
4. Implementation, the third phase, in the software life circle is the actual _____ of the design developed in the second phase.
5. There are two types of testing: _____ and _____. Black box testing is conducted by _____ and _____ while white box testing is the responsibility of _____ who knows exactly what is going on inside the program.
6. It is unavoidable that some testing is conducted as part of the previous two phases, that is, _____ and _____ as well.

II. Answer the following questions briefly.

1. What is software engineering?
2. Software engineering demands an environment where the software product exists. What does this environment consist of?
3. How much time does it takes to complete a large-scale software project?
4. How many key phases are there in the software life cycle? What are they?
5. What is the difference between black box testing and white box testing?

6. In software engineering, what methodology is applied to system lifecycle development?

III. Translate the following expressions into Chinese or English.

English	Chinese
1.	面向对象的方法学/方法论
2. system builder	
3.	白箱测试
4.	(程序)开发小组
5. software engineering	
6.	软件生命周期
7.	充分条件
8. necessary condition	
9. real-time applications	
10.	需求定义

IV. Translate the sentences listed below and the passage of "Software Engineering" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences

1) His success in preventing errors from moving into subsequent phases contributed to the completion of the software engineering project.

2) They have made great efforts to assist him in finding a good automated solution to his problem.

3) That was the most identifiable trouble period.

4) Object-oriented methodology can be applied to system lifecycle development in software engineering, a universally accepted view.

5) The experienced programmer seemed justifiably proud of his capability of mentally testing each line as it is produced prior to any formal testing stage.

2. The passage "Software Engineering"

Unit 6

Preview

Part A International Business English

Transport

How do you understand transport? When people or goods move from one place to another, that is transport or transportation. As for the modes of transport, they are mainly referred to as air, rail, road, water, cable, pipeline, and space, each of which involves infrastructure, vehicles, and operations. Some factors may hinder or promote the development of transport. Nevertheless, needless to say, transport is of remarkable importance to the advance of the industrial society.

Part B Mechanical and Electrical Engineering English

Rail Transport

Rail transport is defined as the means of movement of passengers and freight by way of wheeled vehicles running on rail tracks. At present, international rail traffic is mostly made up of underground, light rail transit, commuter railway, streetcar and maglev.

Translation Technique—Combination

In translation from English to Chinese, the translation technique "combination" means that two or more simple sentences, one complex sentence or one compound sentence in English are to be translated into one simple sentence in Chinese. This

makes the Chinese version not just terse but also comprehensive without losing the original English meanings.

Part A

International Business English

Transport

Transport or transportation is the movement of people and goods from one location to another. There are several modes of transport like air, rail, road, water, cable, pipeline, and space, each of which involves infrastructure, vehicles, and operations.

The transport infrastructure consists of the fixed installations necessary for transport, which are airways, railways, roads, waterways, cables, pipelines, and terminals such as airports, railway stations, bus stations, warehouses, trucking terminals, refueling depots (including fueling docks and fuel stations), and seaports. Terminals can be used both for interchange of passengers and cargo and for maintenance. The vehicles traveling on these networks mainly include bicycles, motorbikes, automobiles, trains and aircraft. Operations deal with the way the vehicles are operated, and the procedures set for this purpose including financing, legalities and policies. In the transport industry, operations and ownership of infrastructure can be either public or private, depending on the country and mode.

There are three types of carrier ownership or three legal forms of transportation, i.e. common carriers, contract carriers and private carriers. Common carriers are privately or publicly owned company committed to providing all shippers with a movement service of the same quality on the basis of equality and nondiscrimination. Individual contracts may be arranged between transportation users and carriers. With a formal agreement, the transportation company becomes a contract carrier. Quite a number of business firms tend to show their own transportation capabilities and become private carriers.

There are some factors that are influencing the transportation industry,

which are transportation deregulation, just-in-time inventory systems, competition based on high levels of customer service and globalization of business.

Transportation is essential to the development and operation of an industrial society. It permits the specialization of work and effort necessary to achieve efficiency and productivity. If a society has no advanced transportation system, it will remain primitive. In a sense, transportation enhances the social division of labor.

Adapted from *Transportation*

New Words and Expressions

aircraft	*n.* 飞机,航空器,飞行器
airway	*n.* 1. 航线,航路 2. 航空公司
business firm	商号
cable	*n.* 1. (船只、桥梁等上的)巨缆,钢索 2. 电缆
carrier	*n.* 承运人,搬运人,送信人,运输工具
common carriers	公共承运人
competition based on high levels of customer service	基于提供高水平客服的竞争
contract carriers	契约承运人
depot	*n.* 补给站,仓库,库房
deregulation	*n.* 1. 放松管制,比较宽松的管制办法 2. 违反常规,反常
fuel	*n.* 燃料,燃烧剂 *vt.* 给……加燃料,给……加油 *vi.* 补充燃料
globalization of business	商业的全球化
industrial society	工业社会
infrastructure	*n.* 基础设施,基础结构,基础建设
installation	*n.* 设备,设施,装置
interchange	*n.* 1. 交换,交替,交流 2. (进出高速公路的)互通式立交,立

	体交叉道，立体交流道
just-in-time inventory system	及时供应的库存系统
legality	*n.* 合法性，法律性
mode of transport	运输方式
motorbike	*n.* 摩托车
nondiscrimination	*n.* 不歧视，无差别待遇
pipeline	*n.* 管道，管线
private carrier	自有承运人
refuel	*vt.* & *vi.* (给)加油，(给)加燃料
shipper	*n.* 承运商，托运人，发货人
social division of labor	社会分工
terminal	*n.* 航空站，航空终点站；(火车、公共汽车或船的)终点站
transportation deregulation	对运输管制的放松
transportation industry	运输业
transportation system	运输系统
trucking terminal	卡车运输终点站
warehouse	*n.* 仓库，货栈
waterway	*n.* 水路，航道

Notes

1. Transport 运输

本文改编自《经贸知识英语(第二版)》第 9 课 *Transportation*(运输)。该书由王学文主编，2000 年 7 月中国人民大学出版社出版。

2. There are several modes of transport like air, rail, road, water, cable, pipeline, and space, each of which involves infrastructure, vehicles, and operations.

有几种运输方式，如航空运输、铁路运输、公路运输、水路运输、缆索运输、管道运输和太空运输，每种运输方式都涉及基础设施、车辆和运营。

3. The transport infrastructure consists of the fixed installations necessary for transport, which are airways, railways, roads, waterways, cables, pipelines, and terminals such as airports, railway stations, bus stations, warehouses, trucking terminals, refueling depots (including fueling docks and fuel stations), and seaports.

运输设施由运输所需的各种固定设施组成，有航线、铁路、公路、水路、管道以及诸如机场、火车站、公交车站、仓库、卡车运输站、加油站（包括加油码头和燃油站）和海港之类的终点站。

4. Common carriers are privately or publicly owned company committed to providing all shippers with a movement service of the same quality on the basis of equality and nondiscrimination. Individual contracts may be arranged between transportation users and carriers. With a formal agreement, the transportation company becomes a contract carrier. Quite a number of business firms tend to show their own transportation capabilities and become private carriers.

公共承运人是私有或公有公司向所有托运人承诺在平等、无歧视的基础上提供同等质量的运输服务。独立的合同可在托运人和承运人之间签订。有了正式协议，运输公司成了契约承运人。相当数量的商号倾向于炫出自己的运输能力并成为自有承运人。

Exercises

I. Fill in the blanks according to the passage of "Transport".

1. Transport or transportation is the movement of _____ and _____ from one location to another.

2. Terminals can be used both for _____ of passengers and cargo and for _____.

3. In the transport industry, operations and ownership of infrastructure can be either _____ or _____, depending on the country and mode of _____.

4. Three types of carrier ownership are legal forms of transportation, which are _____, _____, and _____.

5. Some factors are influencing the transportation industry such as _____ _____, _____, _____, and _____.

6. Transportation permits the _____ of work and effort necessary to achieve _____ and _____. A society with no _____ will remain primitive. In a sense, transportation enhances _____.

II. Check your comprehension.

1. What is transport or transportation? How many modes of transport are

there? What are they and what does each of them involve?

2. What does the transport infrastructure consist of?
3. Are operations and ownership of infrastructure always public?
4. How many legal forms of transportation are there? What are they?
5. On what basis do common carriers perform their movement service?
6. Please list some factors which are influencing the transportation industry and point out the importance of transportation.

III. Match Column A with Column B.

Column A	Column B
1. contract carrier	A. 不歧视,无差别待遇
2. transportation deregulation	B. 及时供应的库存系统
3. social division of labor	C. 运输方式
4. nondiscrimination	D. 商号
5. mode of transport	E. 社会分工
6. business firm	F. 契约承运人
7. globalization of business	G. 对运输管制的放松
8. just-in-time inventory system	H. 商业的全球化

IV. Translate the following sentences into Chinese.

1. These modes of transport are different in terms of operating features and transportation capabilities, giving them comparative advantages and disadvantages.
2. An advanced transportation system is fundamental to the social development, otherwise the society will remain primitive and backward.
3. Many business firms make use of just-in-time inventory systems by means of which the firms maintain very small quantities of production inputs.
4. Transportation has allowed us to trade with other countries all over the world and the commercial intercourse has helped to eliminate many barriers between nations.
5. One thing that makes international transportation different from domestic transportation is that movements between countries are accompanied by many more documents than domestic shipments.

Part B

Mechanical and Electrical Engineering English

Rail Transport

Rail transport is defined as the means of movement of freight and passengers and goods by way of wheeled vehicles running on rail tracks. Currently, international rail traffic mainly consists of such types as underground, light rail transit, commuter railway, streetcar and maglev.

The UK is the hometown of the railway. The British built the first railway in 1825. It was five years earlier than the USA. However, the USA has the longest railway line in the world.

Underground

The underground is also called the subway, tube, or metro. The underground railway system is used to transport large numbers of passengers within urban and suburban areas. Subways are usually built under city streets. For ease of construction they may take shortcuts. Sometimes they must pass under rivers. Outlying sections of the system usually emerge aboveground, becoming conventional railways or elevated transit lines. Subway trains are usually made up of a number of cars operated on the multiple-unit system.

The first subway system was proposed for London by Charles Pearson, a city solicitor, as part of a city-improvement plan shortly after the opening of the Thames Tunnel in 1843. Today, there are many underground systems in many big cities in the world. Passengers must have a token, a token card or the exact change to get on the platforms.

Light Rail Transit

Light rail transit (LRT) is an electric railway system. It was first constructed in the 1970s or later. The light rail transit is characterized by its ability to operate single cars or multi-car trains along exclusive, semi-exclusive or shared rights-of-way at ground level, on aerial structures, in subways, or occasionally in streets. It is able to board and discharge passengers at station platforms, and is normally powered by overhead electrical wires.

In most current settings, light rail is nothing but "light" and is built to exacting standards. Light rail trains normally operate at lower speeds than

heavy rail ones. Depending on the specific system, the distance between light rail stations is shorter than within heavy rail systems, which lends some major advantages to urban settings.

Commuter Railways

In some large metropolitan cities such as New York, London, Paris and Tokyo, a large burden of urban transportation is borne by intercity railways. Many of the lines involved were originally located for intercity travel, which generated urban land uses along the rail corridors; thus, there appeared an increasing number of local trips. Up to about 1920, commuter railways racked up due to a high traffic demand. From then on, however, many rail lines have been abandoned because of the high costs of railway operation and the reluctance by management to allow long-distance passengers and freight customers to subsidize urban transportation.

A major problem of urban railway services is the location of the central terminals. Capacity is increased because trains no longer need to be reversed end for end at crowded terminals. As far as Paris is concerned, suburban rail lines are diverted before reaching their old terminals into a new network of lines across the inner city. The resulting operation is a mixture of heavy rail transit in the centre and commuter railways outside it.

Streetcars

The Streetcar is also called the tram, or the trolley car, which is a vehicle that runs on track laid in the streets, usually operated in single units and driven by electric motor.

Early streetcars were either horse-drawn or depended for power on storage batteries that were expensive and inefficient. In 1834 Thomas Davenport, a blacksmith from the USA, built a small battery-powered electric motor, and he used it to operate a small car on a short section of track.

The cable car was the invention of Andrew Hallidie, and it was introduced in some San Francisco streets in 1873. The cars were drawn by an endless cable running in a slot between the rails and passing over a steam-driven shaft in the powerhouse.

During the 1890s and the first two decades of the 1900s, conventional electric tramlines replaced horse-car lines in Europe and the United States

and made their appearance in many large cities of Asia, Africa, and South America.

There were still many major streetcar systems in operation in the late 20th century, however, primarily in the cities of Central and Eastern Europe and Russia. Streetcar systems are largely municipal, with private bus competition not permitted. When it came to the 1980s some cities in the United States began adopting Light Rail Transit.

Maglev

One of the most exciting recent innovations in railway technology is magnetic levitation or Maglev, which depends on the principle of magnetism attraction and repulsion. This new technology, still under development, will result in trains that are faster, smoother, more efficient, more comfortable, and more environment-friendly. No longer will trains rumble heavily along steel rails; rather, they will float along a magnetic cushion without any direct contact with the ground.

Adapted from *Development of Railway Traffic*, *Railway Engineering*, *Streetcar* and *Subway*

New Words and Expressions

aerial	*adj.* 1. 存在或悬浮于空中的,架空的 2. 空气的,空中的
commuter railway	市郊铁路
corridor	*n.* 狭长地带
divert	*vt.* 使转移(向),使转向
electric motor	电动机
elevated transit line	高架运输路线(课文中指高架铁路)
endless cable	无极钢缆,循环缆索
environment-friendly	*adj.* 有利于环境保护的
intercity	*adj.* 城市间的
intercity railway	城市间的铁路
heavy rail train	重轨列车
heavy rail transit	重轨运输
light rail train	轻轨列车

light rail transit (LRT)	轻轨运输
light rail transport	轻轨运输
maglev (magnetic levitation)	*n.* 磁力悬浮
	adj. 磁悬浮的
magnetic cushion	磁垫
metropolitan	*adj.* 1. 大都会的,大城市的
	2. 中心地区的,正宗的
multi-car train	有多节车厢的列车
municipal	*adj.* 市政的,地方政府的
outlying	*adj.* 1. 偏僻的,边远的
	2. 在外的
overhead electrical wire	架空电线
rack up	1. 在比赛中获(胜),得(分)
	2. 持续增加
rail	*n.* (交通)钢轨,横带
rail track	轨道,铁路线路
rail traffic	轨道交通
rail transport	轨道运输,铁路运输
railway engineering	铁路工程(建设)
railway traffic	铁路交通
reverse end for end	调头
rumble	*vi.* 发出隆隆声,发出辘辘声
	vt. 轰鸣着缓慢行进
steam-driven shaft	由蒸汽动力驱动的轴
steel rail	钢轨
storage battery	蓄电池
streetcar	*n.* (美国特有用语)(市内)有轨电车[英语也叫 trolley car,(英国特有英语)tram]
subsidize	*vt.* 1. 给……津贴或补贴
	2. 资助或补助……
subway train	地铁火车
take shortcuts	走捷径,抄近路
the principle of magnetism attraction and repulsion	磁引力和排斥力原理
token	*n.* 代币

traffic demand	交通需求
underground	*n.* (英国英语)地铁(有时也称 tube;美国英语称 subway; metro;若写成 Metro 则特指巴黎地铁)
	adj. 地下的,地铁的
underground railway system	地下铁路系统,地铁系统
wheeled vehicles	轮式车辆

Proper Names

Andrew Hallidie	安德鲁·哈利迪(美国人,发明了缆车)
Charles Pearson	查尔斯·皮尔逊(伦敦市律师,伦敦的第一条地铁是在他的建议下修建的)
San Francisco	圣弗朗西斯科(即旧金山,美国西部港市)
the Thames Tunnel	泰晤士河隧道
Thomas Davenport	托马斯·达文波特(他是一位美国的铁匠,1834 年制作了一台由电池驱动的马达并用它在一段短程铁轨上驱动了一辆电车)

Notes

1. Rail Transport 轨道运输

本文改编自《实用铁路交通英语》第 22 单元 *Development of Railway Traffic*(铁路交通的发展)和第 23 单元 *Railway Engineering*(铁路工程建设)以及 *Encyclopaedia Britannica Online School Edition PreK－12* 的 *Streetcar*(有轨电车)和 *Subway*(地铁)。该书由魏宏主编,2007 年 12 月清华大学出版社和北京交通大学出版社出版。

2. Rail transport is defined as the means of movement of freight and passengers and goods by way of wheeled vehicles running on rail tracks.

轨道运输的定义是利用在轨道上行驶的轮式车辆运输货物和乘客的方式。

3. The first subway system was proposed for London by Charles Pearson, a city solicitor, as part of a city-improvement plan shortly after the opening of the Thames Tunnel in 1843.

首个地铁系统是由伦敦市律师查尔斯·皮尔逊提议为伦敦建造的,它是作为 1843 年泰晤士河隧道开通后不久城市改造计划的一部分。

4. The light rail transit is characterized by its ability to operate single cars or

multi-car trains along exclusive, semi-exclusive or shared rights-of-way at ground level, on aerial structures, in subways, or occasionally in streets.
轻轨运输的特征是能驱动单节车厢或多节车厢的列车，沿专用、半专用或共用的铁道线运行，铁道线可设在地表、高架桥、地铁上，有时设在街道上。

5. Up to about 1920, commuter railways racked up due to a high traffic demand.
至1920年前后，由于大量的交通需求，市郊铁路线持续增加。

6. During the 1890s and the first two decades of the 1900s, conventional electric tramlines replaced horse-car lines in Europe and the United States and made their appearance in many large cities of Asia, Africa, and South America.
在19世纪90年代和20世纪的头20年里，常规的电车轨道在欧洲和美国取代了马拉车线路，出现在亚洲、非洲和南美洲的许多大城市里。

7. No longer will trains rumble heavily along steel rails; rather, they will float along a magnetic cushion without any direct contact with the ground.
列车再也不会在钢轨上发出隆隆的响声；相反地，列车悬浮在磁轨上运行，不会与地面直接接触。
此处 rumble 意思为“发出隆隆声，发出辘辘声”如 The big guns rumbled in the distance. 远处炮火轰鸣；The well-built man rumbled the wagon down the road. 那位体格健美的男人驾着大篷车辘辘行驶在路上。

Translation Technique — Combination
翻译技巧——合译法

在英译汉中，合译法，或叫合句法，就是把英文中的两个或两个以上的简单句或一个主从复合句或一个并列复合句加以合并，汉译成一个单句。现摘取上文“Rail Transport”(《轨道运输》)里的一些句子来具体举例说明合译法在机电英语汉译中的一些应用。

一、将两个或两个以上的英文简单句汉译成一个单句

Subways are usually built under city streets. For ease of construction they may take shortcuts. 为了易于建造，通常建于城市街道的下面的地铁会走捷径。

Light rail transit（LRT）is an electric railway system. It was first constructed in the 1970s or later. 最初构建于20世纪70年代或者更晚些时候的轻轨运输是一种电气化的铁路系统。

二、将一个英文主从复合句汉译成一个单句

As far as Paris is concerned, suburban rail lines are diverted before reaching their old terminals into a new network of lines across the inner city. 在巴黎,郊区的轨道线在到达旧的终点站之前,转向进入经过城市内部的新的铁路线网。

When it came to the 1980s, some cities in the United States began adopting Light Rail Transit. 到了 20 世纪 80 年代,美国的一些城市开始采用轻轨运输。

三、将一个英文并列复合句汉译成一个单句

In 1834 Thomas Davenport, a blacksmith from the U.S.A., built a small battery-powered electric motor, and he used it to operate a small car on a short section of track. 1834 年托马斯·达文波特,一位美国的铁匠,制作了一台由电池驱动的小马达并用它在一段短程铁轨上开动了一辆小型电车。

The cable car was the invention of Andrew Hallidie, and it was introduced in some San Francisco streets in 1873. 1873 年安德鲁·哈利迪发明的缆车在旧金山一些街道上启用。

改编自"合句法"

Note

Translation Technique — Combination 翻译技巧——合译法

本文改编自《英汉翻译教程》第五章"合句法",该书由张培基等人编写,1980 年 9 月上海外语教育出版社出版。

Exercises

I. Fill in the blanks according to the passage of "Rail Transport".

1. Currently, international rail traffic mainly consists of such types as _____, _____, _____, _____ and _____.
2. The United Kingdom is the _____ of the railway. The British built the first railway in the year of _____, _____ years earlier than the USA. However, the USA has the _____ railway line in the world.
3. The underground is also called the _____, _____, or _____. Outlying sections of the underground railway system usually emerge _____, becoming conventional railways or _____ transit lines.

4. LRT with its full name being _____ is an electric railway system. It was first constructed in _____ or later. Light rail trains normally operate at _____ speeds than heavy rail ones.
5. _____ was invented by Andrew Hallidie, and it was introduced in some San Francisco streets in _____. The cars were drawn by an endless cable running in a slot between the rails and passing over _____ in the powerhouse.
6. One of the most exciting recent innovations in railway technology is _____ or Maglev, which depends on the principle of _____.

II. Answer the following questions briefly.

1. What is the definition of rail transport? What does international rail traffic mainly consist of currently?
2. Can you find some other expressions in English which mean underground? What are they? What is the use of the underground railway system? Who proposed the first subway system?
3. When was the first light-rail-transit system constructed? What is it able to do?
4. Why did commuter railways increase constantly up to about 1920?
5. What were early streetcars like? And what happened in 1834?
6. Will magnetic levitation trains rumble heavily along steel rails? How can they manage to get rid of that loud noise?

III. Translate the following expressions into Chinese or English.

English	Chinese
1. storage battery	
2.	高架运输路线(课文中指高架铁路)
3. rail track	
4.	重轨运输
5. reverse end for end	
6.	无极钢缆,循环缆索
7. maglev	
8.	有利于环境保护的
9. overhead electrical wire	
10. rail transport	

IV. Translate the sentences listed below and the passage of "Rail Transport" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences

1) The British built the first railroad in the world, and it was in 1825, 5 years earlier than the US.

2) Shanghai has an extensive transit system. It is complicated and rapid.

3) Light rail transit is an electrified railway system which was constructed in the 1970s or later.

4) One of the most exciting innovations in railroad technology is magnetic levitation or Maglev which relies on the principle of magnetism attraction and repulsion.

5) Heavy rail transit routes are only built when there is a very large traffic demand.

2. The passage "Rail Transport"

Unit 7

Preview

Part A International Business English

Major Documents in International Trade

In international trade, every shipment has to be accompanied by correct documents. With incorrect documents, the exporter will have difficulties making collections; the importer will have trouble taking delivery; what's worse, delays caused by incorrect documentation may do harm to future business relationship between the trading partners. Most transactions require such major documents as invoice, packing list, bill of lading, insurance policy or certificate, certificate of origin in addition to some other minor documents.

Part B Mechanical and Electrical Engineering English

Automobile Computers

Can you imagine the tendency of automobile development? Yes, automobiles have a tendency to become increasingly advanced and complicated, which is partially due to the wide application of microprocessors to them. The reasons for the rise in the number of microprocessors used in automobiles have drawn much of people's attention and some of the reasons are to be discussed in the passage.

Translation Technique—Translation of Affirmative Sentences into Sentences containing Negators or Phrases with Negators and Vice Versa

In both Chinese and English, one can express something in an affirmative or

negative way. In translation from English to Chinese, there is one translation technique that affirmative English sentences are turned into sentences containing negators or phrases with negators and vice versa. When it is proper to translate English into Chinese in a way either affirmative or negative, the translator can choose either way as he likes. However, if one Chinese version is better, the better version is preferable.

Part A

International Business English

Major Documents in International Trade

One major difference between domestic trade and international trade is documentation. Every shipment has to be accompanied by correct documents. With incorrect documents, the exporter will have difficulties making collections, especially when it is the case of documentary letter of credit, under which credit any discrepancy among the documents presented and/or between the documents and those requirements specified in the credit may result in refusal by the bank to make payment; the importer will have trouble taking delivery; and delays brought about by incorrect documentation may affect future business relationship between the trading partners. Different transactions require different documents, which depends on such factors as the nature of the transaction, the term of delivery, the type of commodity, the stipulations of the letter of credit, regulations and practices in different countries and so on. Nevertheless, most transactions require the following major documents.

The Invoice

The invoice is the short form of the commercial invoice which is a commercial document issued by the seller to the buyer, indicating the goods, the quantity and the agreed price of the goods with which the seller provides the buyer. From the point of view of the seller, the invoice is a sales invoice while from the point of view of the buyer, the invoice is a purchase invoice. On the basis of the invoice other documents are to be prepared, and the

banks check the conformity between credit terms and documents, and the conformity among the documents. In general, the invoice contains the following contents: the invoice number and the date; the name and address of the buyer as well as that of the seller; the contract number and the credit number if any; the description of the goods including the name of the goods, quantity, specifications and so forth; the unit price and total amount, the price terms, and the commission and discount if any; the terms of delivery and the terms of payment; packing, the shipping marks, and the like; and the seal or signature of the exporter. Much attention should be paid to the description of the goods in the invoice which has to be in line with the credit while in other documents the goods can be described in general terms, and also it should be emphasized that the total invoice value should not exceed the total amount of the covering letter of credit (L/C).

The Packing List

Another major document is the packing list which presents such information as the number, the date, the name and description of the goods, the shipping marks, packing, the number of packages, the specific contents of each package and its net weight and gross weight, and the like. At times the letter of credit stipulates for the specification list which is similar to the packing list but put emphasis on the description of the specifications of the goods. The weight list, weight memo or weight note also resembles the packing list in content and function but emphasizes the weight of the goods, and is generally used for goods based on the weight for price calculation.

The Bill of Lading

The bill of lading, as one of the major documents, has three major functions. First of all, it acts as a cargo receipt signed by the carrier and issued to the shipper or consignor. Secondly, it serves as a contract of carriage between the carrier and the shipper. Thirdly, it plays the role of a document of title to the goods, and the legal holder of the bill of lading is the owner of the goods it covers. The bill of lading mainly specifies the carrier, the shipper or consignor, the consignee, the notify party or the party to be advised after arrival of the goods at the port of destination, a general description of the goods, the port of shipment and that of destination, the freight, the place where the bill of lading is issued, the date when the bill of

lading is issued which is seen as the time of shipment and can by no means be later than that stipulated in the letter of credit. Most letters of credit stipulate for the "clean, on board bill of lading". A clean bill of lading indicates that the goods have been shipped in apparent good order and condition. An on board bill of lading states that the shipment has been actually loaded on the carrying vessel bound for the port of destination. Some other documents are similar to the ocean bill of lading such as the airway bill for air transportation, and the railway bill, cargo receipt and other things for railway transportation.

The Insurance Policy and the Insurance Certificate

The insurance policy and the insurance certificate are similar in function, but they are different in that the latter is a bit simpler than the former. Such an insurance document mainly covers the insured, the cargo description, the amount insured and the risks covered, the contents concerning transportation, the place where claims are to be settled, and the date on which the document is issued and that can be made earlier but by no means later than the date of the bill of lading.

The Certificate of Origin

A certificate of origin (often abbreviated to CO or COO) is a document which traditionally states from what country the shipped goods originate. "Originate" in such a certificate does not mean the country the goods are shipped from, but the country where the goods are actually made. If the part of the goods equivalent to more than 50% of the sales amount of the goods originates from one country, that country is acceptable as the country of origin (then the "national content" is more than 50%). In various international agreements, other percentages of national content are also acceptable. When countries unite in trading agreements, they may allow the certificate of origin to state that the trading bloc is the origin rather than one specific country.

Some other certificates, which may be required according to the nature of the goods and the stipulations of the specific countries, include the certificate of quality, the certificate of weight, the certificate of quantity, the certificate of health, the certificate of disinfection, the veterinary certificate, and all that.

In addition, other documents that may be required are the customs invoice, the consular invoice, the proforma invoice, the consular visa, the shipping advice, and what not.

Adapted from *Major Documents Required in World Trade*

New Words and Expressions

act as	充当,担任,担当,起……的作用
airway bill	空运提单,航运收据
and other things	等等
and what not	等等
apparent	*adj.* 外表上的,表面上的
bound (for/to)	正在前往的,打算前去的
by no means	绝不,一点也不,根本不,决不
cargo receipt	承运货物收据
carrying vessel	装货船只,载货船只,承运船只
certificate of disinfection	消毒证书
certificate of health	健康证明,健康证明书,卫生证明书,(船只)无疫证书,检疫证书
certificate of origin (CO or COO)	原产地证书
certificate of quality	质量证书
certificate of quantity	数量证书
certificate of weight	重量证书
clean, on board bill of lading	清洁、已装船提单
commercial invoice	商业发票
commission	*n.* 佣金,回扣
conformity	*n.* 依照,遵从,符合,一致
consignee	*n.* 收货人,受托人,承销人
consignor	*n.* 1. 交付人 2. 发货人 3. 委托方 4. 托运人
consular invoice	领事发票,领事签证的发票,领事签货证书
consular visa	领事签证
contract of carriage	运输合同,运输契约,运送合同,运送契约,运货

合同

credit terms 信用证条款,赊销付款条件,贷款(信用)条件

customs invoice 海关发票

discount *n.* 1. 折扣
2. (任何面值上的)扣除额

discrepancy *n.* 差异,不符合(之处),不一致(之处) (between/in)

documentary letter of credit 跟单信用证

exceed *vt.* 1. 超过,超越
2. (在数量和质量等方面)胜过,超过

gross weight 毛重

in apparent good order and condition 外表状况良好

insurance certificate 保险凭证

insurance policy 保险单

legal holder 法定持有人,合法持有人

make payment 付款

national content 国家含量

net weight 净重

notify party 到货受通知人,受通知人

originate *vi.* 原产,起源,来自,产生(from/in/with)

play the role of 担任……角色,起……作用

port of shipment 装运港,装船港,装货港,发货港

port of destination 目的港

price terms 价格(支付)条件

purchase invoice 采购发票,购货发票

railway bill 铁路运单

regulation *n.* 1. 规章制度,规章,规则,章程,法规
2. 管理,控制

sales invoice 销售发票

shipping advice 装船通知,装运通知,发货通知

shipping marks 唛头

specification list 规格单

stipulate *vt.* (尤指在协议或建议中)规定,约定,讲明(条件等)
vi. 规定,明确要求

stipulation *n.* 契约,规定,条文

take delivery	收货,(货物)受领,提(取)货(物)
term of delivery	交货条件
total amount	总额,总计,总数
trading bloc	贸易集团,贸易联盟
trading partner	贸易伙伴
unit price	单价
veterinary certificate	兽医证明书
weight list, weight memo, weight note	重量单

Notes

1. Major Documents in International Trade　国际贸易中的主要单据

本文改编自《经贸知识英语(第二版)》第7课 *Major Documents Required in World Trade*(世界贸易中所需要的主要单据)。该书由王学文主编,2000年7月由中国人民大学出版社出版。

2. With incorrect documents, the exporter will have difficulties making collections, especially when it is the case of documentary letter of credit, under which credit any discrepancy among the documents presented and/or between the documents and those requirements specified in the credit may result in refusal by the bank to make payment; the importer will have trouble taking delivery; and delays brought about by incorrect documentation may affect future business relationship between the trading partners.

若单据不正确的话,出口商会难以收款,尤其在使用跟单信用证的情况下,提交的单、单之间和/或单、证之间有任何不符就会导致银行拒绝付款;进口商收货会有麻烦;由不正确单据引起的延误会影响贸易伙伴之间未来的商务关系。

此处的 collection 是"托收、收款"的意思,故此 make collections 意为"托收,收款"。discrepancy 意思为"差异,不符合(之处),不一致(之处)(between/in)",如 The discrepancy in their heights seemed not to matter. 他们之间身高的差异似乎没有多大关系;There was a discrepancy in the two reports of the car accident. 关于那次车祸的两则报道有不一致之处。

3. The invoice is the short form of the commercial invoice which is a commercial document issued by the seller to the buyer, indicating the

goods, the quantity and the agreed price of the goods with which the seller provides the buyer.

发票是商业发票的简称，它是由卖方签给买方指明货物、数量、商定的卖方提供给买方货物价格的一种商业单据。

commercial invoice，商业发票，可简称为 invoice，就是指我们平时所说的发票。invoice 前面加上 commercial，目的是要跟 customs invoice 海关发票、consular invoice 领事发票、proforma invoice 形式发票/估价发票相区别，后三种发票的解释详见此注释 8。

4. Much attention should be paid to the description of the goods in the invoice which has to be in line with the credit while in other documents the goods can be described in general terms, and also it should be emphasized that the total invoice value should not exceed the total amount of the covering letter of credit (L/C).

该多加注意，发票上对货物的描述应与信用证一致，而在其他单据上可以对货物作一般性描述，并且该强调的是，发票总值不应超过信用证总值。

5. Most letters of credit stipulate for the "clean, on board bill of lading". A clean bill of lading indicates that the goods have been shipped in apparent good order and condition. An on board bill of lading states that the shipment has been actually loaded on the carrying vessel bound for the port of destination.

大多数信用证规定要"清洁、已装船提单"。清洁提单指明货物已装船，外表状况良好。已装船提单表明货物实际已装上将开往目的港的船只。

此处的 stipulate for 是"规定要求……"的意思。

6. A certificate of origin (often abbreviated to CO or COO) is a document which traditionally states from what country the shipped goods originate. "Originate" in such a certificate does not mean the country the goods are shipped from, but the country where the goods are actually made.

原产地证书(常常缩写为 CO 或 COO)是一份传统上表明已装运货物原产自何处的单据。这样一份证书里的"原产"并不是指货物运自哪国，而是指货物实际在哪国制造。

7. Some other certificates, which may be required according to the nature of the goods and the stipulations of the specific countries, include the certificate of quality, the certificate of weight, the certificate of quantity, the certificate of health, the certificate of disinfection, the veterinary

certificate, and all that.

也许根据货物性质和具体国家的规定需要其他一些证书，这些证书包括质量证书、重量证书、数量证书、卫生证书、消毒证书、兽医证明书等。

8. In addition, other documents that may be required are the customs invoice, the consular invoice, the proforma invoice, the consular visa, the shipping advice, and what not.

另外，也许还需要的别的单据有海关发票、领事发票、形式发票、领事签证、装运通知等。

customs invoice，海关发票，是指进口国家要求出口商按照进口国家海关规定的格式填写的一种单据，用于估价完税，征收差别待遇关税，征收反倾销税，编制统计资料等。

consular invoice，consular visa，领事发票，领事签证，是指进口国家领事签发的发票，其作用跟海关发票相类似。有些国家规定了领事发票的具体格式，有些国家规定可以由该国领事在出口商的发票上签证。

proforma invoice，也写作 pro forma invoice，形式发票/估价发票，是在国际贸易上供进口商据以申请进口证或外汇之用。

Exercises

I. Fill in the blanks according to the passage of "Major Documents in International Trade".

1. There is one major difference between domestic trade and international trade, which is referred to as _____ since every shipment has to be accompanied by correct _____.

2. In terms of the invoice, from the seller's perspective, the invoice is a _____ invoice while from the point of view of the buyer, the invoice is a _____ invoice.

3. Sometimes, the letter of credit stipulates for the specification list which is similar to _____ but put emphasis on the description of _____ of the goods.

4. The weight list, weight memo or weight note resembles _____ in content and function but emphasizes _____ of the goods, and is generally used for goods based on _____ for _____.

5. The bill of lading, as one of the major documents in international trade,

has three major functions. First of all, it acts as _____ signed by the carrier and issued to the shipper or consignor. In addition, it serves as _____ between the carrier and the shipper. Moreover, it plays the part of _____ to the goods, and the legal holder of the bill of lading is _____ of the goods it covers. Some documents are similar to the ocean bill of lading such as _____ for air transportation, and _____, cargo receipt and other things for railway transportation.

6. The insurance policy and the insurance certificate are _____ in function, but they are different in that the latter is a bit _____ than the former.

II. Check your comprehension.

1. What is one major difference between domestic trade and international trade? What will happen with incorrect documents? Why do different transactions require different documents?
2. If it is a documentary letter of credit, what should the description of the goods in the invoice be in line with? And should the total invoice value exceed the total amount of the covering L/C?
3. Can you list some documents similar to the packing list? What are they?
4. How many major functions does the bill of lading have? What are they? How do you understand the term "a clean, on board bill of lading"?
5. What is the requirement for the date on which the insurance policy or the insurance certificate is issued?
6. When countries unite in trading agreements, what may they allow the certificate of origin to state about the origin of the goods?

III. Match Column A with Column B.

Column A	Column B
1. documentary letter of credit	A. 领事签证
2. certificate of disinfection	B. 唛头
3. notify party	C. 净重
4. shipping marks	D. 跟单信用证
5. terms of payment	E. 差异，不符合(之处)，不一致(之处)

（续表）

Column A	Column B
6. net weight	F. 到货受通知人，受通知人
7. consular visa	G. 支付条件，付款条件
8. discrepancy	H. 消毒证书

IV. Translate the following sentences into Chinese.

1. The commercial invoice which is generally called "the invoice" for short constitutes the basis on which other documents are to be prepared.
2. It has been estimated that up to 40% of the cargo loss can be prevented by proper packaging and marking.
3. Insurance has entered into nearly every activity of human beings. As far as international trade is concerned, various kinds of risks can be covered under an insurance policy or an insurance certificate.
4. The ocean bill of lading which has three major functions is an essential document in making a shipment.
5. The airway bill serves as the receipt of the goods taken on board a plane as well as the evidence of the contract of carriage.

Part B

Mechanical and Electrical Engineering English

Automobile Computers

Automobiles tend to become more and more advanced and complicated partly because microprocessors are widely applied to them. Though microprocessors make it difficult for you to work in your automobile, some of them, as a matter of fact, make maintenance an easier job.

Some of the reasons for the rise in the number of microprocessors are the need for sophisticated engine controls to meet the requirement of emission reduction and fuel economy, advanced diagnostics, simplification of the design and manufacture of automobiles, reduction of the amount of wiring in

automobiles, new safety features, and new comfort and convenience features. These reasons have influenced the design of automobiles and are to be discussed below.

Sophisticated Engine Controls

With the enactment of increasingly stricter emissions law, sophisticated engine control schemes have been needed to regulate the air/fuel mixture in order that the catalytic converter can get rid of much of the pollution from the exhaust. Controlling the engine is the most processor-intensive job of the automobile, and the engine control unit (ECU) is the most powerful computer of most automobiles. The ECU uses closed-loop control, a control scheme that monitors outputs of a system to control its inputs, for the purpose of managing the emissions and fuel economy of the engine as well as a host of other parameters. The ECU ensures the lowest emissions and best mileage.

The processor is packaged in a module with hundreds of other components on a multi-layer circuit board. Some of the other components in the ECU that support the processor are analog-to-digital converters, high-level digital outputs, digital-to-analog converters, signal conditioners and communication chips.

Advanced Diagnostics

With the help of a communications bus, each module can communicate faults to a central module, which stores the faults and can communicate them to an off-board diagnostic tool. This assists technicians in diagnosing car problems, especially intermittent problems.

Simplified Design and Manufacture

The importance of communication standards has never been lost on automobile designers and manufacturers; in other words, communications standards have made it easy to design and manufacture the automobile. The instrument cluster of the automobile is one typical example of the simplification of this kind.

The instrument cluster gathers and displays data from various parts of the automobile. Most of the data have already been used by other modules in the automobile. All of the modules in the automobile send the data to the communications bus. Several times a second, the ECU will send out a packet

of information consisting of a header and the data. The instrument panel simply monitors the communications bus and updates the gauges when it receives new data.

Most automobile manufacturers buy the instrument clusters fully assembled by a supplier, who designs them to the automobile manufacturer's specifications. The manufacturer is responsible for making sure that the correct data is output to the communications bus. This makes the job of designing the instrument cluster a lot easier, both for the automobile manufacturer and the supplier.

Simplified Wiring

Multiplexing is a technique that can simplify the wiring in an automobile. In old automobiles, the wires from each switch run to the device they power. With more and more devices at the driver's command each year, multiplexing is necessary to prevent the wiring from losing control. In a multiplexed system, a module containing at least one microprocessor consolidates inputs and outputs for an area of the automobile.

New Safety Features

It is very important to equip automobiles with safety systems without which driving will be insecure. Nowadays, there are such common safety systems as ABS, air bags, traction-control systems and stability-control systems. Each of these systems adds a new module to the automobile, and this module contains multiple microprocessors. When Volvo's Safety Concept Car (SCC) appeared at the 2001 North American Auto Show, it marked the arrival of the then new safety features. The SCC includes active rearview mirrors, rear bumper sensors, remain-in-lane technology and so on. In the future, there will be more and more modules of the above kinds all over the automobile as new safety systems are added.

New Comfort and Convenience Features

With the passage of time, more and more advanced automobile features have appeared and will appear for convenience and comfort, which have required and will require more and more electronic modules containing multiple microprocessors. The Dodge Super8 Hemi concept car, for example, showcases some terrific comfort-and-convenience features such as wireless internet access, voice control of many automobile functions, video, air

conditioning, phone and so on.

Adapted from *Car Computers*

New Words and Expressions

ABS	*abbr.* 防滑煞车系统(英文全称为 anti-skid brake system)
active rearview mirror	可活动的后视镜
a host of	许多,大量,一大群
air bag	(安全)气囊(汽车碰撞时能自动充气,使车上的人不致撞伤)
air conditioning	空调(装置)
at one's command	(某人)可以自由使用(支配)
auto show	车展,汽车展览会
catalytic converter	(汽车等的)催化式排气净化器
bumper	*n.* (汽车上的)保险杠,缓冲器
closed-loop control	闭环控制
communications bus	通信总线
communication chip	通信码片
consolidate	*vt.* & *vi.* 1. (使)巩固,(使)加强 2. (使)合并,(使)结成一体
control scheme	控制模式(图),控制线路
diagnostics	*n.* 诊断学,诊断疾病的科学及实践,诊断(信息)
digital-to-analog converter	数模转换器
emission	*n.* 1. 排放物,散发物,排泄物 2. 排放,散发,发出(气体、光、热)
enactment	*n.* 制定,演出,展现,规定,通过
engine control unit (ECU)	发动机控制单元
exhaust	*n.* 1. 排气装置,排气管(孔) 2. (车辆、发动机或机器排出的)废气
instrument cluster	仪表板,仪表组
instrument panel	仪表板,仪表面板,仪表控制板
intermittent	*adj.* 间歇的,断断续续的
internet access	网络接口,因特网接入服务
microprocessor	*n.* 微处理器,微处理机(程序)

mileage	*n.* 里数,里程
multi-layer circuit board	多层电路板
multiplexing	*n.* 多路复用(转接,传输)(技术,方法),多路(化)
parameter	*n.* 参量,参数
rear bumper sensor	后保险杠传感器
remain-in-lane technology	保持车道技术
Safety Concept Car (SCC)	安全概念车
showcase	*vt.* 使展现,展示
signal conditioner	信号调节器
sophisticated	*adj.* 精密的,尖端的,复杂巧妙的,先进的
stability-control system	稳定性控制系统
traction-control system	牵引控制系统
video	*n.* 视频,视像,录像,录影
voice control	语音控制,音频调制,声控
wiring	*n.* 配线,布线,(建筑物供电的)线路系统

Proper Name

Volvo	富豪牌汽车,沃尔沃牌汽车(瑞典)

Notes

1. Automobile Computers　汽车计算机

本文改编自《计算机英语》第18课 *Car Computers*(汽车计算机的工作原理)。该书由邱仲潘编著,2004年9月科学出版社出版。

2. With the enactment of increasingly stricter emissions law, sophisticated engine control schemes have been needed to regulate the air/fuel mixture in order that the catalytic converter can get rid of much of the pollution from the exhaust.

随着法律对汽车尾气排放量的规定越来越严格,需要复杂的发动机控制器来控制空气/燃料混合物,以使催化式排气净化器能从排气装置里排除大量污染物。

3. The ECU uses closed-loop control, a control scheme that monitors outputs of a system to control its inputs, for the purpose of managing the emissions and fuel economy of the engine as well as a host of other parameters. The ECU ensures the lowest emissions and best mileage.

ECU 使用闭环控制，即利用监控一个系统的输出来控制其输入的控制模式，以此管理发动机的排放、燃料节省以及许多其他的参数。ECU 确保排放量最少和里程最长。

4. With the help of a communications bus, each module can communicate faults to a central module, which stores the faults and can communicate them to an off-board diagnostic tool. This assists technicians in diagnosing car problems, especially intermittent problems.
借助于通信总线，每个模块都可将故障信息发送给一个中心模块，该中心模块存储这些故障信息并将它们传送给一个板外诊断工具。这可以帮助技师们诊断汽车的问题，尤其是时断时续的问题。

5. In a multiplexed system, a module containing at least one microprocessor consolidates inputs and outputs for an area of the automobile.
在一个多路技术系统里，一个模块包含至少一个微处理器，它为车内某个区域输入和输出。

6. The SCC includes active rearview mirrors, rear bumper sensors, remain-in-lane technology and so on.
SCC 包含可活动的后视镜、后保险杠传感器、保持车道技术等。

Translation Technique — Translation of Affirmative Sentences into Sentences containing Negators or Phrases with Negators and Vice Versa
翻译技巧——正反互译法

在英语和汉语中，都有需要从正面或者反面表达一种概念的现象。在英译汉中，有英语从正面表达而汉译文从反面表达的现象；也有英语从反面表达而汉译文从正面表达的现象，这称为正反互译法。有时英译汉时，从正面表达和从反面表达都行得通，译者可以选用一种，当根据上下文意思其中一种译文更确切的话，就选用这一种。从反面表达的英语句子常含有 no, not, never 等否定性副词或者包含带有 de-, dis-, im-, in-, un-, non-, -less 等表示否定意义的词缀的词；在汉语里从反面表达的句子则是指用了“不”、“非”、“无”、“没(有)”、“未”、“否”、“休”、“勿”、“毋”、“别”、“莫”等否定字/词的句子。相反，若不包含上述否定词的句子，即为正面表达的句子。现摘取上文 “Automobile Computers”(《汽车计算机》)里的一些句子来具体举例说明正反互译法在机电英语汉译中的一些应用。

一、英语从正面表达而汉译文从反面表达

The manufacturer is responsible for making sure that the correct data is output to the communications bus. 确保将正确数据输出到通信总线上，制造商责无旁贷。

Though microprocessors make it difficult for you to work in your automobile, some of them, as a matter of fact, make maintenance an easier job. 虽然微处理器给你操作汽车时带来难度，但实际上一些处理器使维护工作变得更加毫不费力。

二、英语从反面表达而汉译文从正面表达

It is very important to equip automobiles with safety systems without which driving will be insecure. 给汽车装上安全系统很重要，不装的话驾车会很危险。

The importance of communication standards has never been lost on automobile designers and manufacturers; in other words, communications standards have made it easy to design and manufacture the automobile. 汽车设计者和制造商一直都重视通信标准的重要性；换句话说，通信标准使汽车设计和制造变得容易。

改编自“正说反译与反说正译”

Note

Translation Technique—Translation of Affirmative Sentences into Sentences containing Negators or Phrases with Negators and Vice Versa 翻译技巧——正反互译法

本文改编自《新编英汉互译教程(第二版)》第二篇中的“正说反译与反说正译”，该书由谭卫国和蔡龙权主编，2009 年 2 月华东理工大学出版社出版。

Exercises

I. Fill in the blanks according to the passage of “Automobile Computers”.

1. Part of the reason why there is the increase in the number of microprocessors in automobiles is that there is _____, _____, _____, _____, _____, and _____.
2. Communications standards have made it easy to _____ the automobile. The instrument cluster of the automobile is one typical example of

_____ of this kind.

3. Multiplexing is a technique that can simplify the _____ in an automobile.
4. Nowadays, there are some widely-used safety systems in automobiles such as _____, _____, _____ and _____.
5. The appearance of Volvo's Safety Concept Car (SCC) at the 2001 North American Auto Show marked the arrival of _____.
6. The Dodge Super8 Hemi concept car showcases some terrific comfort- and-convenience features such as _____, _____, _____, _____, _____, and that sort of thing.

II. Answer the following questions briefly.

1. What is the bad side of the microprocessors applied to automobiles, and what about their good side?
2. According to the passage, what has influenced the design of automobiles?
3. Why is the ECU so useful in automobiles?
4. What can the technique of multiplexing used for?
5. Please give one example to show the simplification of automobile design and manufacture.
6. At which North American Auto Show did Volvo's Safety Concept Car (SCC) appear, and what was the significance of the appearance of the car?

III. Translate the following expressions into Chinese or English.

English	Chinese
1. Safety Concept Car (SCC)	
2.	发动机控制单元
3. instrument cluster	
4. catalytic converter	
5.	防滑煞车系统
6. stability-control system	
7. active rearview mirror	
8.	车展,汽车展览会
9.	闭环控制
10. communications bus	

IV. Translate the sentences listed below and the passage of "Automobile Computers" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences

1) This saves the carmaker from having to know all the dirty details of the sensor.（译文从反面表达）

2) If the remain-in-lane technology is absent, no warning will be sounded when the car begins to veer out of the lane.（译文从反面表达）

3) It seems to leave no doubt that there is no limit to how much technology carmakers are going to pack into our cars.（译文从正面表达）

4) At the 2001 North American Auto Show, the Volvo's Safety Concept Car was an unusual one which showcased some upcoming safety features.（译文从正面表达）

5) Though there are still some car problems unsolved, advanced diagnostics has helped technicians a lot.（译文从正面表达）

2. The passage "Automobile Computers"

Unit 8

Preview

Part A International Business English

Business Letter-writing

Business letter-writing generally aims at giving or taking messages, making or accepting an offer, handling matters concerning business negotiations or performance, and reminding the other party of the sender's existence. In order that a good business letter can be written, being proficient in the language to be used is a must, and then the letter should be clear, concise, correct and courteous. Business letter-writing in English is no exception. An English business letter can be written in the style indented, blocked or modified.

Part B Mechanical and Electrical Engineering English

Communications System Overview

Communication is the transmission of information from one place to another. The transmission path may be either short or long. Both the computer system and the data communications system can be very simple or very complex.

Translation Technique—Translation of Involved Sentences

Translation is to change the discourse in one language into that in another and to make the translated text expressive, understandable and faithful to the original text as far as the meaning and style are concerned. Translation of involved sentences is

one major difficult problem in translation between English and Chinese. Involved sentences are mainly referred to as a complex/compound sentence which has complicated grammatical structure, many modifiers, and two or more content levels, or a simple sentence with many messages. Generally speaking, such a long sentence can be translated without changing the original sentence order, with the original sentence order reversed, with the original sentence order properly adjusted, with the original sentence expanded or divided, or with the original sentence handled comprehensively.

Part A

International Business English

Business Letter-writing

Business letters are generally written for the purpose of giving or taking messages, making or accepting an offer, handling matters concerning business negotiations or performance, and reminding the other party of the sender's existence. Basically, business letter-writing is nothing different from any other form of letter writing. Having a good command of the language to be used for writing is a must. In order that a good English business letter can be finished, fluent English is one basic element. In addition, there are some other essential factors which should be paid much attention to in business letter-writing, that is, business letters should be clear, concise, correct and courteous.

It is necessary to make a business letter so clear that it will not be misunderstood. Such a goal can be arrived at by using good, straightforward and simple words. Clearness goes together with conciseness. However, it is not necessarily the case that a short letter should be written for conciseness. Sometimes, a little sacrifice of conciseness might be made for the sake of courtesy. Generally, short sentences are preferred, and one point is included in one paragraph, so that a business letter can be clear and concise. Furthermore, correct words should be employed for expression. What's more, it is important to be courteous in business correspondence. It is right to

answer business letters in time, be neither supercilious nor obsequious, and settle business differences with diplomacy and tact.

When the business letter is typed, it should be made clean and clear with left-hand and right-hand margins as well as top and bottom margins. If it is a short letter, the letter can be typed with double space. The body of the letter should be placed in the proper position of the page(s). In general, an English business letter can be written in the indented style (Example 1), the blocked style (Example 2) or the modified style (Example 3). It is composed of eight major parts which are the letterhead, the date, the inside address, the salutation, the body of the letter, the complimentary close, the writer's signature, the enclosure, and the postscript.

Example 1 Indented Style

(1) Letterhead

Purchase Department
Independent Textiles Ltd.
315 Manor Street
London E14 8PH
England
Oct. 11, 2010

(2) Inside Address

Mr. Li Linyun
Sales Manager
Import and Export Department
Xinglong Import and Export Company
Shanghai 200000
People's Republic of China

(3) Salutation

Dear Sir, (or:)

(4) Body 正文

Re.: 100% Cotton T-shirts

Your company has been recommended to us by Messrs. Bob Brown Ltd., London, with whom we have kept stable business relationship for five years.

We intend to purchase 100% cotton T-shirts. Please furnish us with a catalogue, price list and brochure, if available.

We are looking forward to your early reply.

(5) Complimentary Close

Yours sincerely,

(6) Signature 签名

(Signed)
John Smith
Purchase Manager

(7) Enclosure/Encl.

Enclosure/Encl.: Letter of Recommendation from Messrs. Bob Brown Ltd.

(8) Postscript 又及

P.S. Please airmail all the material.

Example 2 Blocked Style

(1) Letterhead

Import and Export Department
Xinglong Import and Export Company
Shanghai 200000
People's Republic of China

Oct. 16, 2010

(2) Inside Address

Mr. John Smith
Purchase Department
Independent Textiles Ltd.
315 Manor Street
London E14 8PH
England

(3) Salutation

Dear Sir, (or:)

(4) Body

Re.: 100% Cotton T-shirts

We thank you for your letter of October 11, 2010. As requested, we enclose a catalogue, price list and brochure for 100% cotton T-shirts for your reference.

We would be pleased to offer any further assistance.

(5) Complimentary Close

Yours faithfully,

(6) Signature

(Signed)

Li Linyun

Sales Manager

(7) Enclosure(s)/Encl(s).

Enclosures/Encls.: A Catalogue, Price List and Brochure for 100% Cotton T-shirts

(8) Postscript 又及

P.S. Please contact us if you need any additional information.

Example 3 Modified Style

(1) Letterhead

Purchase Department
Independent Textiles Ltd.
315 Manor Street
London E14 8PH
England

Oct. 21, 2010

(2) Inside Address

Mr. Li Linyun
Sales Manager
Import and Export Department
Xinglong Import and Export Company
Shanghai 200000
People's Republic of China

(3) Salutation

Dear Sir, (or:)

(4) Body

Re.: 100% cotton T-shirts

We are in receipt of your letter dated October 16, 2010 and thank you for the catalogue, price list and brochure which reached us today.

We are interested in your 100% cotton T-shirts, Article No. 1021, but regret to say that your price is about 10% higher than those from other suppliers for similar quality products.

If you can bring down your price to a level acceptable to us, we may consider placing a substantial order with you.

We trust that you will find our above proposition acceptable and let us have your favourable reply in due course.

(5) Complimentary Close

Yours sincerely,

(6) Signature

(Signed)
John Smith
Purchase Manager

(7) Enclosure/Encl. (This part is to be omitted if there is no enclosure.)

Enclosure/Encl.:

(8) Postscript (This part is to be omitted if there is no postscript.)

P.S.

Adapted from *Business Letter-writing*

New Words and Expressions

blocked style	齐头式
bring down	降(价)
brochure	*n.* 说明书,小册子,情况介绍手册
complimentary	*adj.* 1. 表示敬意的,赞美的,恭维的 2. 赠送的
courteous	*adj.* 彬彬有礼的,客气的,礼貌的,谦恭的
courtesy	*n.* 谦恭有礼,礼貌
diplomacy	*n.* 1. 外交,外交手腕,外交术 2. 交际手腕,处世之道,(处理人际关系的)手腕,

	手段,策略
enclosure	*n.* 附件,装入物
favourable reply	合意的答复
furnish	*vt.* 1. 陈设,布置 2. 提供
have a good command of	能驾御,很会,熟练掌握,精通于
indented style	缩行式
in due course	到一定的时候,在适当的时候,经过相当时候,没过多久,届时,及时
left-hand and right-hand margins	左右边距
letterhead	*n.* 信笺上方的印刷文字,笺头,信头
Messrs.	*n.* 〈法〉主要用作 Mr. 的复数,尤用于公司的名称
modified style	(文中指)混合式
obsequious	*adj.* 1. 奉承拍马的,卑躬屈膝的 2. 谄媚的
postscript	*n.* 1. (信末签名后的)附言,又及 2. (正文后的)补充说明
proposition	*n.* 1. 提议,建议,提案 2. 论点,主张
straightforward	*adj.* 坦白的,明白的,直言不讳的
substantial	*adj.* 大量的,可观的
substantial order	可观的订单
supercilious	*adj.* 高傲的,傲慢的
tact	*n.* 圆通,机敏,老练,得体
top and bottom margins	上下边距

Notes

1. Business Letter-writing　商务信函写作

本文改编自《外经贸英语函电》第 1 单元 *Business Letter-writing*(商务信函写作),该书由甘鸿编著,1996 年 6 月上海科学技术文献出版社出版。

2. Business letters are generally written for the purpose of giving or taking messages, making or accepting an offer, handling matters concerning business negotiations or performance, and reminding the other party of the sender's existence.

商务信函一般写作的目的是给予或索取信息;报盘或发盘;处理有关商务谈判或履行的事务以及提醒对方发信人的存在。

3. Your company has been recommended to us by Messrs. Bob Brown Ltd., London, with whom we have kept stable business relationship for five years.

五年来我们与之保持稳定业务关系的鲍勃·布朗有限公司向我们推荐了贵公司。

4. We intend to purchase 100% cotton T-shirts. Please furnish us with a catalogue, price list and brochure, if available.

我们想采购100%全棉T恤衫。假如有的话,请提供目录、价格单和说明书各一份。

5. Enclosure/Encl.: Letter of Recommendation from Messrs. Bob Brown Ltd.

附件:鲍勃·布朗有限公司的推荐信

enclosure是"附件"的意思,可以缩写为encl.。

6. If you can bring down your price to a level acceptable to us, we may consider placing a substantial order with you.

假如您能将价格降到我们能接受的水平,我们也许会考虑向您下可观的订单。

在这个句子中,bring down是"降(价)"的意思,如A nationwide good harvest soon brought down the price of rice. 全国性的大丰收很快使米价回跌了。

7. We trust that you will find our above proposition acceptable and let us have your favourable reply in due course.

我们相信您会感觉我们上述提议可以接受并让我们及时收到您的合我们意的答复。

此处的in due course是"到一定的时候,在适当的时候,经过相当时候,没过多久,届时,及时"的意思,如I am sure that they will answer my email in due course. 我确信,他们会在适当时候回复我的电子邮件。

Exercises

I. Fill in the blanks according to the passage of "Business Letter-writing".

1. When an English business letter is _____, _____, _____, _____,

and written in fluent English, such a English business letter can be considered to be a good one.

2. The goal of making a business letter so clear that it will not be misunderstood can be reached by using _____, _____ and _____ words.
3. It is not necessarily the case that a short letter should be written for conciseness. At times, a little sacrifice of _____ might be made for the sake of courtesy.
4. It is important to be courteous in business correspondence. It is right to answer business letters in time, be neither _____ nor _____, and settle business differences with _____ and _____.
5. When the business letter is typed, it should be made clean and clear with left-hand and _____ margins as well as _____ and _____ margins.
6. Generally, an English business letter can be written in the _____ style, the _____ style or the _____ style.

II. Check your comprehension.

1. What is the purpose of business letter-writing in general?
2. What important factors should be paid attention to when one desires to write a good English business letter?
3. How can one be courteous in business correspondence?
4. When the business letter is typed, what margins are necessary to make a business letter clear and clean?
5. In general, in what style can the business letter be written? Can you list the eight major parts of a business letter? What are they?
6. How did Mr. John Smith introduce himself to Mr. Li Linyun? What pressure did Mr. John Smith place on Mr. Li Linyun to bring down the price?

III. Match Column A with Column B.

Column A	Column B
1. business letter-writing	A. 可观的订单
2. be neither supercilious nor obsequious	B. 合意的答复

（续表）

Column A	Column B
3. substantial order	C. 商务信函写作
4. blocked style	D. 左右边距
5. favourable reply	E. 不卑不亢
6. left-hand and right-hand margins	F. 又及，(正文后的)补充说明
7. postscript	G. 信内地址
8. inside address	H. 齐头式

IV. Translate the following sentences into Chinese.

1. We have pleasure in informing you that we are interested in your product and should be glad if you would make us an offer.
2. We shall be pleased if you will furnish us with your lowest quotation for the following products.
3. We find your quotation slightly higher than those we have received from other sources, and ask you to reduce your price to meet the competition.
4. Your failure in delivering the goods within the stipulated time has greatly inconvenienced us.
5. We await your further news with interest.

Part B

Mechanical and Electrical Engineering English

Communications System Overview

Communication is the transmission of information from one place to another. The transmission path may be short, as when two people are talking face to face with each other or when a computer is outputting information to a printer located in the same room. Telecommunication is long-distance communication. The original source information is either in analog (voice) or digital form. Voice frequencies are either transmitted directly on a voice band communication channel or used to modulate a carrier frequency and

then the modulated waveform is transmitted. Voice source information can also be transmitted in digital format. Codecs (coders/decoders) are integrated circuits which are capable of converting voice frequencies to series of digital pulses or taking the digital pulses and converting them back to voice frequencies. Codecs or similar circuits perform the necessary conversations at the transmit and receive ends and the digital pulses themselves are transmitted on special lines called digital T-carriers. In general, digital communication is the transmission of information in digital form. The source information may be either digital or analog. Data communication is the transmission of information that was originally digital in nature. This information can be transmitted either as digital or analog signals.

Both the computer system and the data communications system can be very simple or very complex. The data communications system may simply be a link between a computer and a remote terminal, or it may be a link between a central computer and many terminals. Banks are good examples of such a system in which all branch locations in a city tie into one main computer. These communications systems are broadly categorized as two-point or multipoint systems. The computer which initiates information transfer is called the master while the other computer is called the slave. Obviously, these roles are interchangeable depending on which computer initiates the call. In such a system, a problem of contention arises when both computers attempt to initiate a call simultaneously. Should this be possible, built-in delays resolve the problem and give one priority over the other.

Multipoint links take on many variations; the network selected is determined by system requirements. The star network has the advantage of ready access by remote sites to the central computer. The associated disadvantage is the tariff paid for the separate lines for each terminal. If the line traffic between the remote terminals and the central computer is small, there may not be sufficient justification for such a system. But then, the ready access may be an overriding factor. In a ring network, the information is passed around in a loop. Each terminal extracts and inserts its own information. In this type of configuration, if one element in the loop goes out of commission, the entire system is down. Backup configurations are possible where information can be circulated either clockwise or counterclockwise

in the loop. Probably the most used configuration is the multidrop. Here, all of the terminals are connected to the same main line. In this system, the main computer is identified as the primary and the connecting terminals are called secondaries (remotes, tributaries). The primary is so called because it controls all movement of information. A secondary cannot transmit or receive information unless it is allowed to do so by the primary. The primary can communicate with all of the secondaries, but each secondary can communicate only with the primary. If one secondary wishes to send a message to another secondary, it must send the information to the primary, which would then relay the information to its intended destination.

From *Communications System Overview*

New Words and Expressions

backup	*n.* 备用,替代
built-in	*adj.* 内装的
carrier frequency	载波频率
categorize	*vt.* 将……分类,使列入……的范畴
clockwise	*adj.* 顺时针方向的
codec	*n.* 多媒体数字信号编解码器
coder	*n.* 编码器,程序编写员
configuration	*n.* 1.(计算机的)配置 2.(各部分之间的)编排,配置,布局
contention	*n.* 争用信息,竞争
counterclockwise	*adj.* 逆时针方向的
decoder	*n.* 解码器,译码器,译码员
digital communication	数字技术通信
digital pulse	数字脉冲
digital T-carrier	T型数字载波
extract	*vt.* 摘录,选取
format	*n.* 形式,格式
give one priority over the other	在两者中给一方以优先权
go out of commission	出故障了,不能用了,坏了
information transfer	信息传递
initiate	*vt.* 促使,启动

integrated circuit	集成电路
justification	*n.* 码速调整
long-distance communications	远距离通信
master	*n.* 主导装置,主机
modulate	*vt.* 调节,调制
multidrop	*n.* 多站(网络),多点(网络),多分支
original source information	信息源
overriding	*adj.* 压倒一切的
overview	*n.* 综述,概要
primary	*n.* 主机
printer	*n.* 打印机,印字机
priority	*n.* 1. 优先权,重点 2. 优先考虑的事 3. 优先,在先,上席,上位
resolve	*vt.* 解决,解答
ring network	环形网络
secondary	*n.* 附属机
simultaneously	*adv.* 同时地,同步地
slave	*n.* 从动装置,附属装置
star network	星形网络
tariff	*n.* 费用,关税
telecommunication	*n.* 电信
tie into	连接到……里去
transmission path	传输路径,传递路径
tributary	adj. & n. 辅助(的),支流(的)
voice band communication channel	声(音)频通信频道
voice frequency	声频,音频
waveform	*n.* (信号)波形

Notes

1. Communications System Overview　通信系统综述

本文引自《电力专业英语(第三版)》第 9 单元 *Communications System Overview*(通信系统综述)。该书由刘然、包兰宇和景志华编著,2009 年中国

电力出版社出版。

2. Voice frequencies are either transmitted directly on a voice band communication channel or used to modulate a carrier frequency and then the modulated waveform is transmitted.

音频既可直接传递到音频通信频道，也可用于调节载波频率，继而传递已调波形。

carrier frequency 意为“载波频率”，其中的 carrier 的意思是“载波”。

3. The data communications system may simply be a link between a computer and a remote terminal, or it may be a link between a central computer and many terminals.

数据通信系统可能只是一台计算机和一个远程终端的连接，也可能是一台中央计算机和许多终端的连接。

4. Should this be possible, built-in delays resolve the problem and give one priority over the other.

如果出现这种情况，内装的延时电路可以解决这个问题，而且给其中一个以优先传递权。

在此处的 give one priority over the other 是“在两者中给一方以优先权，在两者中优先考虑一方”。Priority 意思为“优先权，优先考虑的事”，如 I have priority. 我有优先权；Ambulances are given priority over other traffic. 给予救护车优先通行权；Currently, the development of the national economy is a top priority. 目前，发展国民经济是最优先考虑的事。

5. In this type of configuration, if one element in the loop goes out of commission, the entire system is down. Backup configurations are possible where information can be circulated either clockwise or counterclockwise in the loop.

备用配置可能使信息在环路中要么顺时针方向，要么逆时针方向循环传递。在这种配置中，如果回路中的一个因素出现了问题（或是不能用了），整个系统就瘫痪了。

go out of commission 原意是“退役，衰老，死亡”，文中引用来表示“出故障了，不能用了，坏了”之意。

6. The primary can communicate with all of the secondaries, but each secondary can communicate only with the primary. If one secondary wishes to send a message to another secondary, it must send the information to the primary, which would then relay the information to its

intended destination.

主机可以同所有的附属机通信，但每个附属机只能同主机通信。如果一个附属机要向另外一个附属机发送信息，它必须将信息发送给主机，主机再将其消息转发给其欲发往的目的地。

此处的 primary 是“主机”的意思，secondary 意思是“附属机”。

Translation Technique — Translation of Involved Sentences
翻译技巧——长句译法

翻译是将不同语言的话语进行转换，或是从语义到文本在译语中用最贴切、最自然的对等语再现源语的信息。英汉长句、难句的翻译是英汉翻译中的一大难点。所谓长句，主要是指语法结构复杂、修饰成分较多、内容层次在两个或两个以上的复合句，也可指含义较多的简单句。一般来说，可采用如下方法进行长句翻译。现摘取上文“Communications System Overview”(《通信系统综述》)里的一些句子来具体举例说明长句译法在机电英语汉译中的一些应用。

一、按原句顺序翻译

在英语和汉语中，不少句子表达的行为、事情或情感通常按照其发生的时间的先后顺序来安排，也有许多句子按照所表达的逻辑意义关系排序，因此，大多数句子的主要成分的顺序基本一致。英汉长句主要成分的顺序亦然，因此，英汉长句翻译通常采用按原句顺序来处理。

The transmission path may be short, as when two people are talking face to face with each other or when a computer is outputting information to a printer located in the same room. 传递的路径可以是短途的，就如同两个人面对面彼此交谈一样，或者就像计算机将信息输出到放置在同一房间的打印机一样。

The data communications system may simply be a link between a computer and a remote terminal, or it may be a link between a central computer and many terminals. 数据通信系统可能只是一台计算机和一个远程终端的连接，也可能是一台中央计算机和许多终端的连接。

Multipoint links take on many variations; the network selected is determined by system requirements. 多端连接采用许多不同的网络形式，选择的网络是由系统要求决定的。

二、逆原句顺序翻译

有些英语长句的主句和从句的排列顺序与汉语表达习惯不同，甚至恰恰相反，

遇到这样的句子时，就必须从原文后面译起，逆着原句顺序翻译（张培基，1980）。

A secondary cannot transmit or receive information unless it is allowed to do so by the primary. 只有在主机允许的情况下，附属机方能传递或接受信息。

三、适当调整原句顺序翻译

由于英语和汉语的表达习惯上存在许多不同之处，所以英译汉时适当调整原句顺序是非常普遍的。此处所谓的适当调整原句的顺序，是指原句的某个成分或某些成分在译句中的位置不同于它们在原句中的位置，这样的位置调整是以目的语的表达习惯为基础的。

The computer which initiates information transfer is called the master while the other computer is called the slave. 发送信息的计算机被称为主动装置（主机），而另外一个则被称为从动装置（辅机）。（英译汉时把定语放到汉语中心词的前面）

If the line traffic between the remote terminals and the central computer is small, there may not be sufficient justification for such a system. 如果远程终端与主机的通信信息少，那么该系统就没有足够的码速调整。（英译汉后，主句和从句的顺序保持不变，但两个分句里各自的成分的顺序有所调整）

四、分译

“分译法”见本书第 5 单元翻译知识部分。

Banks are good examples of such a system in which all branch locations in a city tie into one main computer. 银行就是一个很好的例子，城市里所有的分行均与一台主机连接。

Codecs（coders/decoders）are integrated circuits which are capable of converting voice frequencies to series of digital pulses or taking the digital pulses and converting them back to voice frequencies. 多媒体数字信号编译码器（编码器/译码器）是集成电路，它们能够将音频信号转换成一系列脉冲，或者也可接收数字脉冲，再将数字脉冲转换回音频信号。

五、综合处理

有些英语长句结构复杂，内容丰富。汉语语篇中也有不少长而复杂的句子，包含多层意思。面对这样多枝共干难度极大的句子，应仔细推敲，反复琢磨，分清其主干和枝叶，或按时间先后，或按逻辑顺序，有顺有逆，有主有次，有增有减，颇为灵活地对全句进行综合处理（张培基，1980）。

In such a system, a problem of contention arises when both computers attempt to initiate a call simultaneously. 在这样的两点通信系统内，当两个计

算机企图同时发出一个信号时，就会出现竞争的问题。

改编自“英汉长句的翻译”

Note

Translation Technique — Translation of Involved Sentences 翻译技巧——长句译法

本文改编自《新编英汉互译教程(第二版)》一书的第 2 篇中的《英汉长句的翻译》。该书由谭卫国和蔡龙权主编，2009 年 2 月华东理工大学出版社出版。

Exercises

I. Fill in the blanks according to the passage of “Communications System Overview”.

1. Communication is the transmission of _____ from one place to another. The transmission path may be _____ or _____.
2. Codecs (_____ / _____) are _____ which can convert _____ to series of digital pulses or taking _____ and converting them back to voice frequencies.
3. Codecs or similar circuits perform the necessary conversations at _____ _____ and the digital pulses themselves are transmitted on special lines called _____.
4. Generally speaking, digital communication is the transmission of information in _____. The source information may be either _____ or _____. Data communication is the transmission of information that was originally digital in nature. This information can be transmitted either as digital or analog _____.
5. The data communications systems are broadly categorized as _____. The computer which initiates information transfer is called _____ while the other computer is called _____. It goes without saying that these roles are interchangeable depending on _____.
6. Multipoint links take on many variations; the network selected is determined by _____. The star network has the advantage of _____ by remote sites to the central computer. In a ring network, the information is passed around in _____.

II. Answer the following questions briefly.

1. What is communication? In terms of the transmission path, is it short or long when a computer is outputting information to a printer located in the same room? And what about telecommunication?
2. What have you learnt about codecs (coders/decoders) from the passage?
3. Are both the computer system and the data communications system always very complex? What may the data communications system be like? Please give specific examples to show such a system.
4. What kind of computer is the master and what kind of computer is the slave?
5. In a communications system, what problem arises when both computers attempt to initiate a call simultaneously. How can such a problem be resolved if this should be possible?
6. What are the advantage and disadvantage of the star network?

III. Translate the following expressions into Chinese or English.

English	Chinese
1. carrier frequency	
2.	多媒体数字信号编解码器
3. digital pulse	
4. information transfer	
5.	集成电路
6. long-distance communications	
7. original source information	
8.	环形网络
9. transmission path	
10.	波形

IV. Translate the sentences listed below and the passage of "Communications System Overview" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences

1) Multimedia and computer communications are playing an important

role in today's society, creating new challenges to those working in the development of telecommunications systems.

2) Terminals can be mobile or portable, and moving speeds can be as fast as that of a fast train.

3) The Global System for Mobile Communications (GSM) is a good example of a system which has been foreseen to accommodate additional services and capabilities to those initially offered.

4) It does not make sense to consider systems for the future that offer a high data rate but do not support these capabilities to some extent.

5) Certainly, this depends on the applications intended to be supported by the systems, and on whether these systems are targeted to the mass market or only to some niche ones: the former includes WLANs, since the expansion of personal computers has dictated this application as a success in WBS; the latter may have TV broadcasters among their users.

2. The passage "Communications System Overview"

Appendixes 附录

Appendix I
附 录 1

Chinese Version of Each Passage and Key to Exercises
每篇文章的汉译文和练习答案

第 1 单元

A 部分 国际商务英语

国际商务

国际商务是由为达到个人和组织的目标而计划的跨国界进行的交易所组成的。这些交易形式多种多样，常常相互关联。国际商务的主要类型有进出口贸易和外国直接投资(FDI)。后者以包括全资子公司和合资企业的多种形式来进行。国际商务的其他类型有许可、特许经营和管理合同。

直接投资主要是由世界上最大的 500 家公司来进行，这些公司占了所有国际贸易额的较大部分。因此，研究国际商务的重心主要放在大型跨国公司的活动上，这些跨国公司总部设在一个国家但运行在其他国家。跨国公司占了世界投资和贸易额的主要部分。迄今为止，单单跨国公司就已经在海外直接投资了大量钱财收购和创建公司。另一种受人欢迎的国际商务活动是国际合资，那是一种由两个或两个以上的合伙人达成协议，拥有并控制一家海外公司。

国际商务不局限于大型跨国公司。许多中小型公司也参与了这项活动。这些公司涉及服务业。传统上经济学家们认为服务和小商业是非贸易部门的一部

分。但是今天我们生活在一个全球一体化的商务系统内。信息技术和运输上的进步意味着知识、熟练人员、货物和服务的流动性极强。世界现在是一个地球村，村内的货物和服务常在国内和国际竞争。

就国际贸易而言，人们常常把进出口货物看做像车子、鞋子和食物这类实物，但它们也包括诸如国际航空公司、游船公司、预订机构和旅馆提供的服务。当然，进出口活动的主要部分是在诸如工业机械、电脑、车子、电视机、盒式录像机和其他电子产品的制造领域。然而，我们看到服务方面的世界贸易份额正在逐渐增加。

一个国家必须做些什么来获得并保持稳固的国际贸易和投资的地位呢？有三个领域它必须做得出色。首先，它必须保持经济竞争力。第二，它必须影响贸易规则，以便其他国家打开大门接受其货物和服务，愿意向其购买和销售。第三，它的公司必须面向全球，以便像跨国公司一样营运，而不仅仅是作为从事海外业务的当地公司。

研究显示公司获得竞争优势的最佳方法是革新。这常常是通过不断改进货物或服务的质量来实现的。

国际商务自从国界形成以来一直在进行，并对塑造世界历史的发展起到了重大作用。今天，国际商务成就了把我们大家联结到一起的一个全球的联系网络，我们大家指国家、机构和个人——它把彼此联结得比以往紧密得多。这些联系以前所未有的方式把贸易、金融市场、技术和生活水平捆绑到一起。

时代在改变。个人、公司和政策制定者已意识到一个事实，即国际商务对未来成长和繁荣来说是一桩必须要做的重大事情，同时也是机会。国际商务使人能接近新客户、开展规模经济和磨练竞争技能。在全球市场表现好是提高生活水平、获得更高利润和加强在世界经济中地位的关键。因此，不论是用于与外国公司竞争还是仅仅为了更好理解我们周围的世界，国际商务知识对每个人来说都很重要。

改编自“国际商务简介”

练习

I. Check your comprehension.

1. International business consists of transactions that are devised and carried out across national borders to satisfy the objectives of individuals and organizations. These transactions take on various forms, which are often interrelated. The two primary types of international business are export-

import trade and foreign direct investment (FDI).

2. Direct investment is mostly conducted by the 500 largest firms in the world; these firms also account for the major part of all international trade. Thus the study of international business is heavily focused on the activities of large multinational enterprises (MNEs), most of which are the above-mentioned firms. MNEs can be briefly defined as the firms which are headquartered in one country but have operations in other countries.
3. No, it isn't. Because many small and medium-sized businesses are also involved in this area.
4. In the case of international trade, we shouldn't neglect services besides physical goods.
5. There are three areas in which it must excel. First, it must maintain economic competitiveness. Second, it must influence trade regulations so that other countries open their doors for its goods and services, being willing to buy from as well as sell to the country. Third, its businesses must develop a global orientation that allows it to operate as MNEs, not just as local firms doing business overseas.
6. Yes, I can. Individuals, corporations, and policy-makers have been awakened to the fact that international business is a major imperative and opportunity for future growth and prosperity. International business offers access to new customers, affords economies of scale, and permits the honing of competitive skills. Performing well in global markets is the key to improved standards of living, higher profits, and strengthened position in the world economy. Therefore, it is important to study international business, whether you want to compete with foreign firms or simply to better understand the world around us.

II. Match Column A with Column B.

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

III. Translate the following sentences into Chinese.

1. 国际商务中的交易主要以诸如进出口贸易和外国直接投资(FDI)这样常紧密相关的形式出现。
2. 就外国直接投资而言,全资子公司和合资企业是两种常见的类型。
3. 国际商务不局限于大型跨国公司。跨国公司和许多中小型公司都积极参与

国际商务活动。

4. 虽然进出口物品常被认为只是实物，但它们也包括在世界贸易中所占比例在上升的各种服务。
5. 在世界市场上表现优良会在提高生活水平、赢得更多利润和加强在国际经济中的地位上起到重要的作用。

B部分 机电英语

数控和计算机数控

数字控制(NC)是按照包含机床运动信息的程序所指定的顺序自动执行操作的加工过程。数控这一概念是由美国密歇根州特拉华城的约翰·帕森斯在20世纪40年代后期提出来的。帕森斯建议采用一种自动机床控制方法，这种方法会引导铣刀加工出一种“过轴曲线”，以便在工件上形成光滑的轮廓。

当数控在计算机监控下进行时，它就被称作计算机数控。计算机是计算机数控机床的控制单元，它们内嵌于机床或者通过通信渠道与机床联接。当程序员用磁带等将一些信息输入程序时，计算机就会计算出所有所需的数据来完成工作。因为第一台数控机床的数据是由纸带控制的，所以数控系统被称为纸带控制机床。

数控技术自从被创立以来，已被广泛应用，应用实例包括车床和车削中心、铣床和加工中心、冲床、电火花加工机床、火焰切割机、磨床及测试和检验设备。最复杂的计算机数控机床是车削中心。

一方面，与传统机床相比，计算机数控机床具有许多的优点。首先，显而易见，在同一台机床上，安装一次即可能完成多个操作任务。因为存在机床多轴联动的可能性，所以不需要特别的成形刀具来切割出异常的零部件形状。并且由于计算机数控机床精度高，受操作者影响小，废品率大幅下降。再者，采用CAD/DAM系统后，采纳对零部件设计所作的修改就变得轻而易举。通过用抽检代替全检，保证质量的工作变得相当便利。此外，生产率显著提高。上述仅仅是计算机数控机床相对于传统机床而言的一些优点。然而在另一方面，计算机数控机床不可避免地会有一些缺点。它们价格非常昂贵，并且必须由技术高度娴熟的员工来编程、安装、操作和维护。显而易见，计算机数控机床利大于弊。采用计算机数控技术的公司受益于它并增强了其竞争优势。

计算机数控机床结构复杂。然而，不管有多复杂，任何计算机数控机床都由计算机、控制系统、驱动电机和换刀结构这几个单元组成。如同所有其他计算机

一样，CNC 机床的计算机也是根据二进制原理，只有两个字符 1 和 0 作为电路的信息加工精确时间脉冲。在 NC/CNC 机床里有两种类型的控制系统：开环和闭环。控制环的类型决定机床的整体精度。驱动电机控制 NC/CNC 设备上拖板的运动，它们有四种基本类型：步进电机、直流伺服电机、交流伺服电机和液压伺服电机。大部分 NC/CNC 机床配备有自动换刀机构。换刀机构有随机换刀和顺序换刀。

未来愈加广泛地使用计算机数控机床毫无疑问将成为制造业提高自动化程度的最佳途径之一。

改编自“数控和计算机数控”

翻译原则

国内外不同的翻译理论家提出了不同的翻译原则。现将一些有影响力的原则介绍如下：

严复的三大翻译原则

严复，一位可敬的中国翻译理论家，提出了有名的三大翻译原则，即信、达、雅三字，这也叫做严复的三字翻译原则。“信”的意思是译文应该忠实于原文，即译文应该保留原文的内容或者思想。“达”指的是译文应该意思表达清楚并且连贯易懂，没有任何晦涩不明的地方，也就是说“达”要求译文应该流畅通顺，易于阅读和理解。简而言之，译文应该读起来像原作。“雅”的意思是译文应该很优美自然并且其风格应该非常优雅。越来越多的学者或翻译者反对严复的“雅”，因为有许多不同的风格，严复的“雅”只适合对优雅风格的翻译。

刘重德的三大翻译原则

在 1979 年刘重德教授提出了他的信、达、切三大翻译原则或称三点翻译原则。他保留了严复翻译原则的头两个字，但用“切”替换了“雅”。他强调道，并不是所有的作品都具有风格优美的特点，译文的风格应该尽可能接近原文。他的原则适合所有具有不同风格的文本，他将严复的“雅”改成“切”代表了他对翻译理论所作的贡献。

亚历山大·弗雷泽·泰特勒的三点翻译原则

论述过翻译原则的最早也最具影响力的学者是亚历山大·弗雷泽·泰特勒，一位著名的英国学者。在 1790 年，他写了《论翻译的原则》，在书中他指出译文应该复现原作思想；译文风格手法应该与原作同一；译文应该具备原作的通顺。这就是他的三点翻译原则。

尤金·奈达的功能对等

尤金·奈达主张，翻译既是一门艺术又是一门科学。他创立了翻译原则“动

态对等”或“功能对等”。按照他的“动态对等”(1969)理论,翻译者应该竭尽全力翻译出原文的意思,以使译文措辞在译文读者身上产生原文措辞在原文读者身上产生的相同的影响。后来,奈达将“动态对等”改成了“功能对等”。

不管你支持或使用哪个翻译原则,你都应该在意思和风格上忠实于原文。同时,你应该努力使译文尽可能通顺明白和易于理解。

练习

I. Fill in the blanks according to the passage of “NC and CNC”.

1. CNC

2. tape-controlled, tape

3. lathes and turning centres, milling machines and machining centres, punches, electrical discharge machines, flame cutters, grinders, and testing and inspection equipment

4. computers, control systems, drive motors, tool changers

5. open loop, closed loop

6. stepper motors, DC servomotors, AC servomotors, fluid servomotors

II. Answer the following questions briefly.

1. Numerical Control (NC) is any machining process in which the operations are carried into execution automatically in the sequence as designated by the program containing the information for the machine tool movements. When NC is conducted under computer supervision, it is then called Computer Numerical Control (CNC).

2. Since its introduction, NC technology has found many applications, including lathes and turning centres, milling machines and machining centres, punches, electrical discharge machines, flame cutters, grinders, and testing and inspection equipment. The most complicated CNC machine tool is the turning centre.

3. In comparison with conventional machines, CNC ones have many advantages. First of all, it can be easily seen that there is a possibility of performing multiple operations on the same machine in one setup. Because there exists the possibility of simultaneous multi-axis tool movement, special profile tools are not necessary to cut unusual part shapes. In addition, the scrap rate is significantly lowered owing to the

precision of the CNC machine and lesser operator impact. Also, it is easy to incorporate part design changes when CAD/CAM systems are employed. It is rather convenient to perform quality assurance by a spot check instead of by checking all parts. Furthermore, production is significantly increased. Those above-mentioned advantages are only some of the advantages presented by CNC machines over conventional ones. However, inevitably CNC machines are imperfect and also have some disadvantages. They are quite expensive and have to be programmed, set up, operated, and maintained by highly skilled personnel. It goes without saying that CNC machines have more advantages than disadvantages.

4. The answer to this question is open-ended.

5. Because he thought that not all works are characterized by the elegant style, and that the style of the translated text should be as close to the original one as possible.

6. Eugene A. Nida maintains that translation is both an art and a science. He established the translation principle "dynamic equivalence" or "functional equivalence". According to "dynamic equivalence" (1969), the translator should try his utmost to translate the meaning of the original text in such a way that the target language text wording will produce the same impact on the target text audience as the original wording does upon the source text audience. Afterwards Nida changed "dynamic equivalence" into "functional equivalence".

III. Translate the following expressions into Chinese or English.

1. 铣床

2. Computer Numerical Control (CNC)

3. 测试和检验设备

4. thru-axis curve

5. electrical discharge machine

6. 抽样调查，抽查

7. 加工中心

8. machine tool

9. 铣刀

10. quality assurance

IV. Translate the sentences listed below and the passage of "NC and CNC" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences

1) 较为典型的是,自动换刀装置会夹紧车床主轴内的刀具,将其拉出,然后用另一把刀具替换。

2) 如果怀疑程序会出错的话,请确保零件的正确安装。

3) 安全和维护对于计算机数控机床来说是绝对必要的。

4) 只要稍加修理,这台铣床就能运转了。

2. The passage "NC and CNC"

参见汉译文。

第 2 单元

A 部分 国际商务英语

交易合同

交易合同是对有关当事人规定约束性责任并依法实施的一种协定。任何一方当事人假如未能履行合同义务的话,可能会被起诉并被强制进行赔偿。

合同是在协议的基础上订立的,而协议又是商务谈判的结果,这些商务谈判分成两种类型,即口头谈判和书面谈判。口头谈判是指通过参加商品交易会,派遣贸易小组出国或邀请外国客户来本国进行的面对面的讨论以及通过国际长途电话所进行的讨论。书面谈判往往始于买方为了得到有关欲订货物的信息而发出的询盘,这些信息如数量、规格、价格、装运时间和其他交易条件。询盘对询盘人没有约束力。如果是首次询盘,即进口商向从未打过交道的出口商发出询盘,询盘中应该包括进口商是如何获得了出口商姓名地址的,还应该包括进口商的经营范围和通常做法等,以便出口商进行工作。

回复询盘时,出口商可以寄去一个报价单,其中应包括询盘中所要求的所有必要的信息。有时候,出口商可主动向进口商发盘。实盘是按所给价格销售货物的承诺。收到发盘的人也许发现无法接受该盘的一部分,并可能提出自己的建议以供进一步讨论,这就构成了一个还盘。还盘一经作出,就是对原来的发盘的拒绝,使其无效而失去约束力。这样,还盘就成为由原来的收盘人发给原来的发盘人的一个新报盘。

一旦发盘或还盘被接受,便认为是达成了交易。一般缮制并签署书面合同,

作为达成协议的凭证和执行协议的基础。由卖方制作的合同称作售货合同，而由买方制作的合同则称作购货合同。只包括最基本的交易条件的售货或购货确认书没有合同那么详细，它通常只在较小的交易中或在熟悉的贸易伙伴之间使用。

合同的构成同贸易协定或任何其他种类的正式协定类似。它通常包括下列各项：

(1) 合同名称。合同的类型是在名称中体现出来的，如售货合同、购货合同、寄售合同等。合同号和日期写在合同名称的右下方。

(2) 合同正文。这部分包括如下各项：

A. 买卖双方的全名和地址；

B. 所涉及的商品，包括数量、质量、规格、包装等；

C. 双方所同意的所有条款，如价格、总值、付款条件、运输、保险等；

D. 合同正本的份数、所使用的语言、有效期和合同可能的延期；

(3) 缔约双方签字并表明其身份是卖方还是买方；

(4) 合同背面的规定是合同的组成部分，对合同双方同样具有约束力，这些可能包括所需要的装运单据、不可抗力条款、仲裁条款、索赔条款等。

改编自“交易合同”

练习

I. Check your comprehension.

1. A business contract is an agreement which sets forth binding obligations of the relevant parties and can be enforced by law. If any party fails to fulfill his contractual obligations, the relevant party may be sued and forced to make compensation though not all contracts give rise to disputes.

2. The contract is signed on the basis of agreement. There are two types of business negotiations. They are oral business negotiations and written ones.

3. In response to an enquiry, all the necessary information required by the enquiry should be included in a quotation by the exporter. A firm offer is a promise to sell goods at a stated price.

4. The offeree is likely to raise for further discussions his own proposals which constitute a counter-offer. The counter-offer is a refusal of the offer and the offer will be invalid and unbinding once a counter-offer is

made.

5. Because a written contract is used as the proof of the agreement and as the basis for its execution. The contract which is made by the seller is called a sales contract whereas the one which is made by the buyer is called a purchase contract. A sales or purchase confirmation covering only the essential terms of the transaction is less detailed than a contract, and is usually used for smaller deals or between familiar trade partners.

6. A contract generally contains four items. They are as follows:

1) The title. The type of the contract is indicated in the title such as Sales Contract, Purchase Contract, Consignment Contract, etc. The number of the contract and the date are given below the title to the right side.

2) The contract proper. This part includes such items as follows:

A. The full name and address of the buyer and the seller.

B. The commodities involved including quantity, quality, specifications, packing, etc.

C. All the terms and conditions agreed upon such as the price, total amount, terms of payment, transportation, insurance, etc.

D. Indication of the number of original copies of the contract, the languages used, the term of validity and possible extension of the contract.

3) The signatures of the contracting parties indicating their status as the seller or the buyer.

4) The stipulations on the back of the contract are constituent parts of the contract and are equally binding upon the contracting parties. These may include the shipping documents required, force majeure, arbitration, claims, etc.

II. Match Column A with Column B.

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

III. Translate the following sentences into Chinese.

1. 交易合同是对有关当事人规定约束性责任的一种协定。虽然大多数合同并不引起纠纷，但合同是依法实施的，任何一方当事人假如未能履行合同义务，可能会被起诉并被强制进行赔偿。

2. 口头谈判是指通过参加商品交易会，派遣贸易小组出国或邀请外国客户来本国进行的面对面的讨论，而通过国际长途电话所进行的商务讨论也属于此

类谈判。

3. 在实盘中，除了准确地描述货物的数量、质量、规格、包装等外，还应该提及装运时间和所希望的付款方式。
4. 有效期对于实盘是必不可少的。在规定期限届满之前，或在被对方接受或拒绝之前，发盘一直是有效的。
5. 还盘可以针对发盘中的价格、付款条件、装运时间或其他条款提出。

B部分 机电英语

基于计算机的测试仪器

几乎所有不同规模的公司都已经意识到，它们能得益于使它们在程序开发和结构搭建上省去巨额费用和许多时间的计算机辅助测试。计算机辅助测试仪器通过借助软件来完成许多传统上由硬件搭建的结构所实现的许多功能，来帮助这些公司达到降低劳动成本、提高生产率和消除读取和处理测量数据时的人为错误的目的。个人电脑被用来实现对这类仪器的总体设计。PC仪器有内置和外置两种。

内置适配器

内置PC仪器安装在一个或一个以上的计算机适配板上。这些板卡在物理性能上与视频卡和I/O卡完全相同，计算机依赖这些板卡才能正常运行。要将仪器装进计算机，只需将卡插进母版上可用的扩展槽，而系统功能照常。测试仪器的使用通过计算机键盘由软件来控制。没有用户可触摸到的手柄、旋钮开关或指示器。仪器的全部操作通过计算机及其接口来进行。

内置PC测试设备的一个实例是R. C. 电子公司的叫做COMPUTERSCOPE－IND IS－16的分析示波器。IS－16的数据采集模块由一块16通道的A/D转换板、外置仪器接口盒和相应的软件组成。

外置PC仪器

在外部连接PC仪器中，测试仪器装在计算机柜外面的传统柜子里。输入/输出接插件、选择开关，也许是一两个LED，会装在柜子里。另外，接插件缆线从插进PC的外部仪器中引出。外置PC测试仪器和计算机以电缆的形式连接，电缆用于传送电压、数据及两台设备间的控制信号。当测试仪器接到计算机时，它就成了一个虚拟的工作站。

计算机内有一个接口卡，它将外部测量仪器的信号转变为满足计算机总线要求的带有电平和定时要求的数字脉冲。

系统1号音频分析器是一个测试音频精度的外置PC测试仪器的典型实例。系统1号被设计成与计算机接口的音频测试站,它能对音频放大器、磁带系统及相关的音频部件执行36种以上的标准性能测试。

模数转换

任何基于PC的测试仪器性能的核心是模数转换器或ADC。ADC将模拟输入电压转换为二进制数字。基本上有两种方法用于基于PC的测试仪器,它们是逐次逼近型转换器和闪存型转换器。

在单片电路电子学出现之前,逐次逼近(SAR)方法因为其低的转换率被视作是ADC家族中的落伍者。但随着当今技术的发展——超快比较器、快速电流开关和ECL逻辑的出现,使得从逐次逼近转换器可获得有用的性能。逐次逼近技术的一个值得注意的特点是它几乎不需要硬件。由此,可以将这种型号的ADC集成到成本很低的12位或更高位的单片电路中。

虽然逐次逼近转换器也许很吸引人,但它无法用于视频或数字采样。对于这种应用,采用另一类叫做闪存转换器的ADC。闪存转换器在单个时钟周期内执行转换并输出数据。模数转换通过一个并行电压比较器阵列来完成。

计算机接口

关于内置PC仪器,使用计算机内部数据总线将数据流直接传送到计算机。计算机与外部的唯一接口是测试仪器的输入/输出口。

在外置PC测试仪器设计中,必须做好准备,以把外部机盒与内部计算机总线接起来。在系统1号音频测试站中,连接是通过通向插在计算机扩展槽中的数字接口卡的专有通信线路来实现的。接口卡将输入数字脉冲转换为计算机总线可识别的信号。许多利用PC的外置测试设备制造商采取了这种做法,即采用各种专用接口结构。在有些情况下,外置测试仪器制造商试图将其接口标准化,使它与大量的计算机兼容,而不局限于IBM PC家族。方法之一是使用RS-232串口,这种接口在各种计算机和许多其他型号的设备中都可见到。

通用接口总线

实现将单个测试仪器集成为交互的自动化系统的目标的第一大步是19世纪70年代早期由Hewlett-Packard通过Hewlett-Packard接口总线(HP-IB)的引入完成的。HP-IB本质上是一个通信线路,这使得仪器之间可通过由许多电线组成的标准总线相互通信。在1975年,HP-IB标准被IEEE协会接纳为IEEE-488标准。1978年,IEEE-488标准被修订为IEEE-488-1978,并正式命名为通用接口总线或GPIB。IEEE-488测试系统的首选仪器是收发器,它可通过总线同时发送和接收信息。收发器的功能使完成编程、解决问题和

维护 IEEE－488 测试系统的任务变得更容易。

改编自“基于计算机的测试仪器”

主要翻译方法

一般而言，有三大翻译方法，即意译法、直译法和意译加直译法（也称为活译法），谭卫国和蔡龙权（2009）将此活译法用英文表述为 the literal-plus-liberal translation approach。

Richards、Platt 和 Platt（2000）认为，译出原文大意但不紧扣原文语法、风格或结构的，叫做自由翻译，即意译。差不多逐字逐句翻译原文的叫做直译。由于两种语言之间的差异，一些句子得结合直译和意译两种方法。这种意译加直译的翻译方法有时非常有用。下面的例子可用来说明这些翻译方法。

（1）In 1975, the HP－IB standard was adopted by the IEEE committee as the IEEE－488 standard. 在 1975 年，HP－IB 标准被 IEEE 协会接纳为 IEEE－488 标准。（直译）

（2）Do you see any green in my eye? 你以为我是幼稚好欺骗的吗？（意译）

（3）Computer-aided testing（CAT）has received a warm welcome from almost companies of all sizes which have realized that they can benefit from CAT which will save them enormous expenses and much time in program development and main frame construction. 计算机辅助测试受到了几乎所有不同规模公司的热烈欢迎，因为它们都已经意识到，它们能得益于使它们在程序开发和结构搭建上省去巨额费用和许多时间的计算机辅助测试。（意译加直译即活译：which 引导的定语从句是说明计算机辅助测试受欢迎的原因，故该从句意译成了原因，对全句其余部分采用了直译法。）

You can spread your wings with Open Studies. 开放型大学让你展翅飞翔。（意译加直译即活译：这句 spread your wings 是暗喻，具有深意，意译成了“展翅飞翔”，对句子其余部分采用了直译法。）

练习

I. Fill in the blanks according to the passage of “Computer-based Test Instruments”.

1. labour cost reduction, productivity increase, the elimination of human errors, software, hardware

2. computer adapter boards

3. external, Input-output connectors, selector switches, LEDs

4. the successive approximation register type, the flash converter
5. the external box, the internal computer bus
6. talker-listeners, the bus, programming, troubleshooting, and maintaining IEEE-488 test systems

II. Answer the following questions briefly.

1. Because the companies have realized that they can benefit from CAT which will save them enormous expenses and much time in program development and main frame construction. Computer-aided test instruments help those companies to meet the goals of labour cost reduction, productivity increase and the elimination of human errors in reading and processing measurements, by utilizing the power of software to perform many of the functions traditionally conducted by workbenches loaded with hardware.
2. They are internal and external PC instruments. The internally-used PC instruments are installed on one or more computer adapter boards. In an externally connected PC instrument, the test instrument is housed in a conventional cabinet external to the computer's cabinet.
3. An analog-to-digital converter or ADC is central to the performance of any PC-based test instrument.
4. In the case of the System One audio test station, the connection is made through a proprietary communication link which leads to a digital interface card inserted into a computer expansion slot.
5. The HP-IB is essentially a communication link that allows one instrument to talk to another over a standard electrical bus composed of many wires. In 1975, the HP-IB standard was adopted by the IEEE committee as the IEEE-488 standard. The IEEE-488 standard was updated in 1978 to IEEE-488-1978 and officially labeled the General-purpose Interface Bus, or GPIB.
6. The talker-listeners can both send and receive information over the bus.

III. Translate the following expressions into Chinese or English.

1. 模数转换器
2. 计算机辅助测试
3. computer-based test instruments
4. audio amplifier

5. 闪存转换器
6. 通用接口总线
7. selector switch
8. 交互的自动化系统
9. 输入/输出
10. communication link

IV. Translate the sentences listed below and the passage of "Computer-based Test Instruments" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences
1) 一般来说，音频测试采用扫描频率方式，其范围大于被测设备的频率。
2) 输入测量数据可存储在计算机文件中或临时计算机内存(RAM)中作为备份或作进一步处理用。
3) 如果需要，新参数是可以存储到电脑文件中以备将来之用的。
4) 计算机辅助测试(CAT)非常有用，已经受到了人们的许多关注。

2. The passage "Computer-based Test Instruments"
参见汉译文。

第 3 单元

A 部分 国际商务英语

国际支付

在国际商务中，货物买卖和服务供求跨越国界进行，其结果是交易中的有关当事人难以得到足够多的有关彼此财务状况和信誉情况的信息。因此，很难建立彼此间的信任。因为对方可能不履行合同，进出口商都面临风险。

一方面，既由于买方破产、得不到外汇、不可靠或拒绝付款，也由于进口国存在贸易壁垒，出口商面临买方不付款的风险。另一方面，由于有生产和运输问题，进口商面临拖延装运的风险，另外因出口商疏忽或不诚实，进口商面临收到不合要求的货物的风险。事实上，政治风险、商业风险、语言障碍和文化差异都构成了国际商务中的问题。既然存在这么多复杂的问题和风险，怪不得出口商在收到货款前不愿对货物放手，而进口商愿意在付款前掌控货物。

在国际商务上，已经形成不同的付款方式以应对不同的情况。

现金

假如进口国的政治和经济形势使付款没有保障，或者假如进口商的经济和信誉状况靠不住，出口商喜欢采用预付现金或部分预付现金的方式。然而，一旦出口商拿到了现金，不能保证其一定履行职责。

记账

假如出口商和进口商彼此熟悉，他们也许会采用记账的方式进行交易，记账的意思是没有单据，进口商有权在任何时候付款。这种销售方式通常通过定期付款来支付，不言而喻，出口商必须有足够的财力承担在收到货款前的货物费用。

寄售

假如出口商希望保留货物所有权，他会进行寄售，寄售是指出口商发货到海外，等货物出售后才得到货款。未出售的货物可以运回。进行这种交易的前提是，进口国稳定，进口商完全了解有关的问题和风险，并且有值得信任的代理照看其利益。

汇票

英文汇票 draft，也可称为 bill of exchange，它是对某银行或客户下达的一个无条件的命令，命令其立即或在未来的某个固定的时间向某人支付一定金额的款项。开出汇票的人是出票人，而接受汇票的人是受票人。出票人可以指示受票人付给“我们自己指定的人”或“其他某人指定的人”。汇票不是即期的就是远期的，远期汇票英文名为 usance draft，又名 tenor draft 或 term draft. 另外，汇票要么是不跟任何单据的光票，要么是跟有关单据如提单、发票、装箱单、保险单等的跟单汇票。

跟单托收和信用证

关于跟单托收，出口商将汇票和运输单据寄给其银行，该银行将它们转给进口国的另一家银行，这家银行接洽进口商。有两种跟单托收。一种是 D/P(付款交单)，另一种是 D/A(承兑交单)。D/P 是指进口商付款后才得到单据。D/P 分为即期付款交单和远期付款交单两种。按照即期付款交单的要求，进口商得立即付款以得到单据。按照远期付款交单的要求，在出示单据后，进口商被给予一定的时间，但他只有在确实支付货款后才能得到单据。在 D/A 情况下，进口商承兑出口商开出的汇票后获得单据，货款会以后支付。D/A 总是远期的。

对接受托收支付的方式要持谨慎态度。采用这种付款方式通常只是因为进口商经济状况良好，或者出口商希望促销，或者交易金额小。否则的话，还是采用信用证(L/C)更为可取。

改编自“国际支付”

练习

I. Check your comprehension.

1. In international business, the purchase and sale of goods and services are undertaken beyond national boundaries.

2. No, it isn't easy because in international business, the purchase and sale of goods and services are undertaken beyond national boundaries, as a result of which the parties concerned in the transaction find it hard to get sufficient information about each other's financial status and creditworthiness, hence it is difficult for them to build mutual trust.

3. On the one hand, the exporter faces the risk of buyer default due to both the buyer's bankruptcy, failure to get the foreign exchange, unreliability or refusal to pay, and the trade barrier of the importing country. On the other hand, the importer faces the risk of shipment delay as a result of problems in production or transportation and also has the risk of receiving wrong goods because of the exporter's negligence or lack of integrity. As a matter of fact, political risks, commercial risks, language barriers and cultural differences all add up to the problems in international business.

4. Because there exist so many complicated problems and risks, the exporter is reluctant to release the goods before receiving payment while the importer chooses to have the goods under control before bidding farewell to his money.

5. In international business, there are many different modes of payment like paying by cash, paying through consignment sale, paying by means of documentary collection, and paying by L/C.

6. D/P and D/A are the two kinds of documentary collection. D/P means documents against payment while D/A means documents against acceptance. As for D/P, documents will not be released to the importer until payment is effected. D/P is divided into D/P at sight and D/P after sight. In line with D/P at sight, the importer has to pay immediately so as to get the documents. In accordance with D/P after sight, the importer is given a certain period of time after the documents are presented, but he can not get the documents until he actually pays for the goods. In the case of D/A, documents are handed over to the importer upon his acceptance

of the bill of exchange drawn by the exporter. Payment will not be made until a later date. D/A is always after sight.

II. Match Column A with Column B.

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

III. Give the English expressions to the following terms in the table.

<table>
<tr><th></th><th colspan="2">根据即期和远期区分</th><th colspan="2">根据有无跟单区分</th></tr>
<tr><td>1. 汇票
draft or the bill of exchange</td><td>A. 即期汇票
sight draft</td><td>B. 远期汇票(期票)
usance/tenor/term draft</td><td>A. 光票
clean draft</td><td>B. 跟单汇票
documentary draft</td></tr>
<tr><td rowspan="2">2. 跟单托收
documentary collection</td><td>A. 即期付款交单
D/P at sight</td><td>B. 远期付款交单
D/P after sight</td><td></td><td></td></tr>
<tr><td colspan="2">A. 承兑交单(总是远期的)
D/A (always after sight)</td><td></td><td></td></tr>
</table>

IV. Translate the following sentences into Chinese.

1. 因为对方可能不履行合同义务,进口商和出口商都面临风险。

2. 对于出口商来说,他面临着买方不付款的风险,因为买方也许不能支付全部货款。

3. 对进口商而言,他面临的风险是出口商拖延装运和可能在付款后很久才收到出口商的货物的风险。另外,他还可能因为出口商的疏忽或缺乏诚信而面临收到不合格货物或收不到货物的风险。

4. 在国际商务上,已经形成各种各样的付款方法以应对不同的情况,诸如现金、记账、寄售、汇票、跟单托收和信用证。

5. 相当多的国际交易通过汇票支付,汇票不是即期的就是远期的,远期汇票英文叫 usance draft, 也叫 tenor draft 或 term draft。

6. 对接受托收支付的方式应持谨慎态度,采用方式通常是因为进口商经济状况良好,或者出口商希望促销,或者交易金额小。否则的话,还是采用信用证(L/C)更为可取。

B部分 机电英语

计算机辅助设计和制造

计算机辅助设计(CAD)

计算机辅助设计(CAD)是计算机时代的产物。它从早期的计算机绘图系统发展到当今的交互式计算机图形学。起初,CAD系统只是一个带有内置设计符号的绘图编辑器。三维CAD系统允许设计者进入三维设计空间。因为三维模型包含了进行数控(NC)刀具路径编程所需的足够信息,所以能开发出CAD和NC之间联系的系统。所谓交钥的CAD/CAM系统就是基于这个概念开发的,并从20世纪的70年代到80年代流行起来。20世纪70年代标志着CAD的一个新时代的开始,那时发明了三维实体建模。CAD在个人计算机上的推行使CAD走向了大众。有了标准图形用户界面(GUI),CAD系统可以轻而易举地从一台计算机传送到另一台计算机。大多数CAD系统都能在不同平台运行。在大型计算机、工作站和基于个人计算机的CAD系统三者之间几乎没有什么不同。

一个CAD系统由三大部分组成,即指计算机和输入输出装置的硬件、操作系统软件和CAD软件包的应用软件。硬件用于支持软件功能。操作系统软件是CAD应用软件和硬件之间的界面。应用软件是CAD系统的核心,它由进行二维、三维建模、绘图和工程分析的程序组成。

CAD给了设计者尝试策划几个可行的解决方案的能力。计算机向设计者提供强有力的工具,以分析所提议的设计并为最终设计准备正式的图形。在二维绘图时代,计算机方法能够提供比传统纸笔方法更有意义、数额更大的节约成本的优势,但一个计算机辅助设计系统并非只是一个电子绘图板。计算机绘图系统能使设计者既快又准确地设计出图形,并且易于修改。有限元是一项成熟的应力分析技术,它多被土木工程师和机械工程师使用。有了这项技术,工程师们可以将一个结构分成有限个数的小单元并计算出各个单元之间的作用力。

计算机辅助设计使多视图的二维绘图成为可能,视图空间可以在从微米到米的比例范围内无限变化。随着三维建模的出现,设计者有了更多的自由度。他们可以生成三维零件图并且可以无限制地修改图形以获得所需的结果。三维模型可以用线框、曲面或实体方式生成。

将计算机用于完成绘图和设计任务的好处令人印象深刻:提高速度、提高准确性、既易于恢复信息又减少硬拷贝储存空间、加强信息传输能力、改善传输质量和更便于修改。

计算机辅助制造(CAM)

当设计完成时,制造就可以开始了。计算机在生产的许多方面都起到了重要的作用。最重要的制造功能之一是库存和生产控制。假如原始设计是在计算机上进行的话,获得材料需求清单则易如反掌。标准计算机数据处理方法用来组织工作流程和订购所需零件。

当计算机数控(CNC)机床加工一个几何形状复杂的零件需要计算大量刀位时,零件编程软件可用来简化编程。零件编程软件常常并入一个计算机辅助制造软件包内。一些计算机辅助制造软件与计算机辅助设计软件合并成计算机辅助设计和制造工作站。然后计算机辅助制造软件可以使用计算机辅助设计文件,把后者当做数据源,这样加快了编程的进程。在零件加工之前,零件程序需要验证,这样做的目的是要发现刀具切削路径的几何错误、刀具的潜在干扰和错误的切削条件。当零件程序使用基于 CAD 的系统而生成时,刀具路径的图形输出可以用软件生成。通过目测检查,可以发现不正常的刀具路径。

随着计算机辅助工艺规划的改进,人们非常注重从整个设计功能中去除工艺规划员。工艺规划是设计和制造两者之间的关键桥梁。设计信息只有通过工艺规划才能翻译成制造语言。

在计算机的帮助下,可以采用材料需求计划(MRP)技术来提供比以往更为精确的材料信息,并且制造系统可以比以前更加容易地对变化作出反应。材料清单可以直接来自 CAD 系统,并且包括每个零部件的所有规格信息,含对供应商的说明。此外,由计算机程序控制的机器人用于制造。大多数制造公司都期望 CAD/CAM 和 CIM(计算机集成制造)系统能在他们的制造系统提高适应性。制造系统被设计成既能自动加工零件又能将零件从一台机床移到另一台机床,并在系统中按顺序指定操作次序。

一个弹性制造系统,或称作 FMS,是一个能自动生产多种产品的可重编程序的制造系统。数控技术和机器人技术的应用已经向我们提供了用最少的装配时间来改编加工程序的可能。数控机床和机器人为重编程制造系统提供了基本的物理模块。

改编自“计算机辅助设计与应用”和“计算机辅助制造与应用”

练习

I. Fill in the blanks according to the passage of “CAD and CAM”.

1. computer, graphic, interactive

2. hardware, operating system software, application software

3. increased speed, greater accuracy, reduction of hardcopy storage space, better recall, enhanced communication capabilities, improved quality, easier modification
4. stock and production control
5. programming, tool positions
6. design, manufacturing, process planning

II. Answer the following questions briefly.

1. At first CAD systems were no more than graphics editor with some built-in design symbols. Three-dimensional solid modeling was invented in the 1970s. CAD implementations on personal computers (PCs) have brought CAD to the masses.
2. A CAD system is made up of three major parts. They are hardware which is referred to as the computer and input/output (I/O) devices, operating system software, and application software which is the CAD package.
3. Finite element is a sophisticated stress analysis technique much used by civil and mechanical engineers. With such a technique, the engineers can divide a structure into small, but finite, components and calculate the force among elements.
4. Yes, they are impressive: increased speed, greater accuracy, reduction of hardcopy storage space as well as better recall, enhanced communication capabilities, improved quality and easier modification.
5. Part programming software is used to ease programming for CNC machines when a complex part geometry requires calculation of a large number of tool positions. Before a part is produced, the purposes of the part program verification are to detect geometric error of the cutter path, potential tool interference and erroneous cutting conditions.
6. It can be defined as a reprogrammable manufacturing system capable of producing a variety of products automatically.

III. Translate the following expressions into Chinese or English.

1. 计算机集成制造
2. materials requirement planning (MRP)
3. 三维建模
4. 图形用户界面
5. workstation

6. NC cutter-path programming
7. 零件编程软件
8. flexible manufacturing system (FMS)
9. mainframe
10. 有限元

IV. Translate the sentences listed below and the passage of "CAD and CAM" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences
1) 这不仅对 CAD 软件很重要,而且对非 CAD 软件也很重要。
2) 我之前还不知道 CAD 和 CAM 原来已经被如此广泛地应用。
3) 工艺规划是设计和制造两者之间的关键桥梁。
4) 因为图形文件是以电子格式存储而不是以图纸格式存储的,所以有可能会容易删除绘图文件。

2. The passage "CAD and CAM"
参见汉译文。

第 4 单元

A 部分 国际商务英语

信 用 证

信用证是银行在进口人的要求下所签发的承诺见单付款的信函。信用证常被缩写为 L/C 或 L.C.,有时被称为"银行商业信用证"、"银行信用证"、"商业信用证"或简称为"信用证"。信用证的宗旨是利用银行信誉方便国际支付。这种支付方法向买卖双方提供了担保。卖方只要提交了准确无误的单据就保证能得到货款,而买方通过他在信用证里规定的单据保证能得到所要的货物。这种双边担保是信用证独一无二的典型特点。

关于信用证的运作,它始于指示银行开立以出口人为受益人的载明购货金额的信用证的进口人。这里的进口人叫做申请人、开证人或委托人等,开立信用证的银行叫开证行,英文为 opening bank, issuing bank 或 establishing bank,使用信用证得到货款的出口人叫做受益人。开证行将信用证寄给它在出口人所在国家的关系行,该关系在审核信用证后会通知出口人信用证已收到。这里的关系行叫做通知行。出口人或受益人会仔细审核信用证的全部内容,若发现有

任何不符的地方，会要求开证行修改，以便确保安全及时地收到货款。有时候出口人会因为信用证金额太大或不完全信任开证行而要求开立保兑信用证。对信用证保兑的银行叫做保兑行，通知行或别的一流银行都可以充当保兑行。当与信用证有关的一切就绪后，出口人会根据信用证备妥有关单据，并发货给进口人。然后出口人向通知行提交汇票和所附单据，通知行对汇票付款、承兑或议付。这时通知行也成了充当开证行代理的付款行，在支付受益人之后从开证行那里得到偿还。假如一家银行由开证行指定或自己主动买下出口人递交给它的信用证项下的汇票的话，这家银行叫做议付行。之后，议付行将汇票和单据寄给开证行以得到偿还。

各种信用证的形式、长度、语言和规定有不同。只要履行信用证条款，即所有单据与信用证规定相符，或者说只要单据表面没问题，信用证就保证向受益人付款，它并不担保所购货物就是那些发票所开或载运的货物。

信用证根据其作用、形式和机制的不同而分成几类。下面是几种主要的信用证：

（1）光票信用证和跟单信用证：只要求光票的信用证，即开证行仅凭不附装运单据的汇票付款的信用证为光票信用证。通常用于非贸易结算或以信用证方式预付货款。国际贸易中所使用的信用证大多为跟单信用证，即要求装运单据和汇票一起提示的信用证。

（2）可撤销信用证和不可撤销信用证：这一分类基于申请人和开证行对于付款的承诺程度。可撤销信用证是指在未同受益人协商的情况下对这种承诺进行改变，甚至取消。不可撤销信用证是指未经有关当事人同意，不可随意修改或撤销的信用证。必须指出的是，如果信用证上未指明“可撤销”还是“不可撤销”，应该视为不可撤销信用证。

（3）保兑信用证和不保兑信用证：如果信用证被开证行以外的一家银行保兑，那么这个信用证便成为保兑信用证。在保兑信用证中，受益人得到双重付款保证，因为保兑银行在开证行承担付款义务的基础上又加上了自己的承诺。如果信用证未经另外一家银行保兑，那么它便是不保兑信用证。

（4）即期信用证和远期信用证：即期信用证是指受益人向银行提示汇票和正确无误的单据时银行立即付款的信用证。它给予受益人更好的付款保障并有助于他加快资金周转。远期信用证，在英文中称为 usance credit，term credit 或 time credit，是指在出票后或见票后一个具体日期或一段时间后付款的信用证。

（5）可转让信用证和不可转让信用证：如果信用证可以由原受益人转让给一个或几个受益人，它就是可转让信用证。一个信用证只能转让一次。但是，如

果允许分批装运的话，信用证可以同时转让给多个受益人。如果信用证上没有明确规定是否可以转让的话，应视为不可转让信用证，其受益人必须根据信用证的规定发运货物和缮制单据。

（6）无汇票信用证：现在有一种趋势，即无须开立、出示汇票手续，只须提示单据便可付款。这种信用证是无汇票信用证。主要有付款信用证和延期付款信用证，这两种信用证分别同即期信用证和远期信用证相类似。所不同的是，在无汇票信用证情况下，不开立汇票也不提示汇票。

（7）循环信用证：如果信用证规定，其金额用过后，在未对其进行特定修改的情况下，即可重新恢复到原金额，这种信用证就是循环信用证。当买卖双方有着长期的贸易关系，每月或一个特定时期内成交特定数量的货物时，这种信用证特别有用。

信用证极大地方便并促进了国际贸易。然而，跟其他任何付款方式一样，它并不完美，所以合同双方应该根据具体情况选择理想的付款方式。

改编自“信用证(I)”和“信用证(II)”

练习

I. Check your comprehension.

1. The Letter of credit is a letter issued by a bank at the request of the importer in which the bank promises to pay upon presentation of the relevant documents. It is often abbreviated to L/C or L.C. and is sometimes referred to as “banker’s commercial letter of credit”, “banker’s credit”, “commercial credit” or simply “credit”.

2. The objective of the L/C is to facilitate international payment by means of the creditworthiness of the bank. This method of payment offers security to both the seller and the buyer. The seller has the security to get paid providing he presents impeccable documents while the buyer has the security to get goods required through the documents he stipulates in the credit. This bilateral security is the unique and characteristic feature of the letter of credit.

3. In terms of the L/C operation, it begins with the importer that instructs his bank to issue an L/C in favour of the exporter for the amount of the purchase. Here the importer is called the applicant or opener, principal, and so on.

4. Sometimes the exporter may require a confirmed letter of credit either because the credit amount is too large, or because he does not fully trust the opening bank.
5. The L/C only assures payment to the beneficiary as long as the terms and conditions of the credit are fulfilled, that is, all the documents comply with the stipulations of the credit or proper on their face. No, it doesn't.
6. The function, form and mechanism of the letters of credit have been taken into account for credit classification. The major types of credits are clean credit and documentary credit, revocable credit and irrevocable credit, confirmed credit and unconfirmed credit, sight credit and usance credit, transferable credit and non-transferable credit, non-draft credit, and revolving credit.

II. Match Column A with Column B.

1 C　2 A　3 F　4 B　5 H　6 D　7 E　8 G

III. Give one or more English expressions according to the following requirements.

1. 要求开立信用证的进口人	A. applicant	B. opener	C. principal
2. 开证行	A. the opening bank	B. the issuing bank	C. the establishing bank
3. 使用信用证得到付款的出口人	A. beneficiary		
4. 开证行在出口地的关系行或叫通知行	A. the correspondent bank	B. the advising bank	
5. 保兑行	A. the confirming bank		
6. 付款行	A. the paying bank		
7. 议付行	A. the negotiating bank		

IV. Translate the following sentences into Chinese.

1. 签证行承诺见单付款的信用证常被缩写为 L/C 或 L.C.，有时被称为“银行商业信用证”、“银行信用证”、“商业信用证”或简称为“信用证”。
2. 受益人会仔细审核信用证，如果发现有任何不符的地方，会要求开证行修改，以便确保安全及时地收到货款。
3. 光票信用证和跟单信用证通常用于非贸易结算或以信用证方式预付货款。

国际贸易中所使用的信用证大多为跟单信用证，即要求装运单据和汇票一起提示的信用证。

4. 必须指出的是，如果信用证上未指明“可撤销”还是“不可撤销”，应该视为不可撤销信用证。
5. 如果信用证上没有明确规定是否可以转让的话，应视为不可转让信用证，其受益人必须根据信用证的规定发运货物和缮制单据。
6. 当进出口商双方有着长期的贸易关系，每个月或在一个特定时期内成交特定数量的货物时，循环信用证特别有用。

B部分 机电英语

发电机和电动机

发电机将机械能转化成电能，而电动机将电能转化成机械能。发电机和电动机的运行依靠相同的电磁原理，即发电机作用或称感应原理和电动机作用原理。

关于发电机作用或称感应，当磁力线被磁场里的线圈切割时线圈产生感应电压，然后线圈或磁场或两者都运动起来。机械能产生运动，运动产生电。说到电动机作用，它只是磁铁之间的机械力作用。当两块磁铁或电磁铁彼此靠近时，两块磁铁不是相吸就是相斥。所有的发电机和发动机都各有两大部分，即静止的定子和安装在轴承上可以转动的转子。转轴伸到机壳外。对于发电机来说，转轴连接原动机，对于电动机来说，转轴连接机械载荷。

输入发电机的是机械功率，原动机运用机械功率转动转子。这个转动力被称为转矩，转矩跟施加的力与施加的力离开转轴中心的距离这两者成正比。所施加的力愈大，转矩愈大。并且，手柄愈长，转矩愈大。公式为“转矩(T)= 力(F)× 距离(D)”。输出直流电(DC)的发电机叫做直流发电机，而输出交流电(AC)的发电机叫做交流发电机。

输入电动机的是电力。电压施加到电动机端子上产生电流。电动机输出的是机械功率，机械功率通过转轴以转矩形式输出，转矩用来转动载荷，如电扇或泵。若要以特定速度驱动载荷，需要一定量的转矩。转矩要求是选择电动机时该考虑的最为重要的因素之一。

改编自“发电机和电动机”

练习

I. Fill in the blanks according to the passage of "Generators and Motors".

1. the electromagnetic principles, the principle of generator action, induction principle, the principle of motor action
2. induction, magnetic field, flux, the wire or the field or both, electricity generation, the mechanical forces
3. the stationary stator, the rotor, bearings
4. a DC generator, an alternator
5. electrical power, mechanical power
6. torque, motor

II. Answer the following questions briefly.

1. Generators can turn mechanical energy into electrical energy whereas motors can change electrical energy into mechanical energy.
2. Generators and motors depend on the same electromagnetic principles for their operations.
3. In respect of generator action or induction, voltage is induced into a wire in a magnetic field when the magnetic flux is cut by the wire, and then there arises the motion of the wire or the field or both. The mechanical energy leads to the motion which causes electricity generation. When it comes to motor action, it is merely the mechanical forces between magnets. When two magnets or electromagnets approach each other, one will be either pulled towards or pushed away from the other.
4. The torque is the turning force. There are two factors which affect the torque. They are the force applied, and the distance between the force applied and the centre of the shaft.
5. The generator whose output is a direct current (DC) is called a DC generator whereas the one whose output is an alternating current (AC) is known as an alternator.
6. Torque requirement should be considered to be one of the most important factors when one selects a motor.

III. Translate the following expressions into Chinese or English.

1. 转矩
2. generator action or induction

3. 交流电
4. 电动机作用
5. DC generator
6. 机械功率
7. 原动机
8. rotor shaft
9. stator
10. 机械载荷

IV. Translate the sentences listed below and the passage of "Generators and Motors" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences
1) 当把螺栓上的螺帽拧紧时,你便在扳手上施加了转矩。
2) 开灯后,房间更亮了。
3) 本杰明·富兰克林认为有两种电荷流体,他称之为正电和负电。
4) 电能与运动的能量即动能有些类似。
5) 线圈与磁场都在运动,但其速度不同。

2. The passage "Generators and Motors"
参见汉译文。

第 5 单元

A 部分 国际商务英语

保　　险

保险是一种社会机制,在此机制下人们转移风险并从转移风险的所有人所缴纳的基金中提供损失赔偿金。转移风险的人叫做投保人,而承担风险的人叫做承保人。通过缴纳已知的与潜在损失相比通常金额很小的保险费,投保人会获赔损失全额或按规定获赔部分损失额。承保人收取投保人的保险费,将它作为承担风险的共同基金,受损方的索赔额从此项基金中支付。

在国际贸易中,地域间隔和时间间隔会造成很大的风险。在这样的情况下,保险公司就承担起了本应由贸易者承担的风险。货物保险是一种旨在将风险从进口商和出口商的肩上转移到专门承担风险的保险业者身上的活动。

在保险上有一些原则必须遵守。可保权益原则认为只有在一件事情中有利益才可以投保。这意味着，假如投保的东西得到了保护，投保人就会从这种投保中得益。但假如它不管以何种方式受到损坏或被丢失，投保人就会受到负面影响。按照最大诚信原则，人们根据提议形式的书面声明，决定某项保险的保险费是否合理。如果这份声明不真实，那么商定的保险费就不会合理。错误的声明会被视作是欺诈，并且保险单会无效。按照赔偿原则，保险合同是一份将受损人的利益恢复到发生损害前的同等状况的合同。就一份正常的保险单而言，付出的赔偿只是将投保人的利益恢复到受害前的状态，但不好于这种状态。货物保单常被叫做有价保单，意思是说按商定的金额赔偿，常包括发票金额加上运输费和保险费再加上一个商定的百分比，比如10%。这个百分比代表基于交易所占用的资金所能挣到的利润。损失费用分摊原则与赔偿原则相关联。该原则规定同样的风险不能投保两次，不能从两个承保人那里获取赔偿金，否则会违反赔偿原则。也与赔偿原则有关的代位追偿原则，在货物保险上非常重要。它所指的情况是当投保人和承保人以外的第三方应负责赔付至少一部分投保人提出的索赔额时，承保人尽力向第三方追讨回承保人已付出的这部分索赔额。关于近因原则，它指的是签发的保单要承保某种险别，只有发生的风险是造成损失的直接原因时才能得到赔偿。近因就是导致损失的直接原因。

改编自“保险(I)”和“保险(II)”

练习

I. Fill in the blanks according to the passage of “Insurance”.

1. fund, common pool, risk, claims

2. geographical, time, risks

3. the principle of insurable interest, the principle of utmost good faith, the indemnity principle, the contribution principle, the subrogation principle, the principle of proximate cause

4. the insured, loss, better

5. valued policies, invoiced cost, freight, forwarding charges, the insurance premium, percentage, profit

6. direct, insurer, insured

II. Check your comprehension.

1. Insurance is a social device in which people transfer risk and provide for payment of losses from funds contributed by all the people who have

transferred risk.

2. The insurance premium is usually a very small sum of money compared with the potential loss. The insured can regain from the insurer either the full amount of the loss or a specified percentage of the loss.
3. Both the geographical gap and the time gap are very harmful to international trade.
4. Yes, its aim is to move the burden of risk from the shoulders of the exporters and importers, and put it on the shoulders of specialist risk-bearing underwriters.
5. The insurance principles listed in the passage are the principles of insurable interest, utmost good faith, indemnity, contribution, subrogation and approximate cause.
6. The principle of utmost good faith means that those who decide what premium is fair for a particular cover do so on the basis of written statements made in a proposal form, and that if this statement is not true, then the premium agreed on will be unfair, and the mis-statement will be viewed as a fraud and the policy will be voidable. The subrogation principle, associated with the indemnity principle, is very important in cargo insurance. It refers to circumstances in which an insurer tries to recoup expenses for a claim it paid out when another party should have been responsible for paying at least a portion of that claim.

III. Match Column A with Column B.

1 H　2 E　3 A　4 G　5 B　6 C　7 D　8 F

IV. Translate the following sentences into Chinese.

1. 保险是一种风险转移机制，通过保险个人或企业可以将生活中的一些不确定因素转移给别人。
2. 有三种基本险，它们是平安险（F. P. A.）、水渍险（W. A. 或 W. P. A.）和一切险。
3. 正常情况下，承保人付出的赔偿只是将投保人的利益恢复到受害前的状态。
4. 根据可保权益原则，在一件事情中没有利益的人无权投保。
5. 依照最大诚信原则，即使保险单上的错误声明是无意的，该保险单也会无效，因为承保人会受骗。
6. 根据近因原则，承包人不会对投保险别不是造成损失的近因的损失索赔进行赔偿。

B部分 机电英语

软件工程

软件工程可以被定义为用工具、方法和规则去产生和维护针对一个现实生活中问题的一个自动化解决方案。它要求人们识别问题、运行软件产品的计算机及该软件产品存在的环境(该环境内有人员、设备、计算机、文档等)。要是没有计算机程序就不会有软件产品,也不会有软件工程,这是显而易见的事。然后,这不是充分条件,只是必要条件。

完成一项大规模的软件工程需要跨越相当长的时间。这整个过程可以划分成一些不同的阶段。这些阶段一起构成了所谓的软件生命周期,软件生命周期是软件工程上的一个基本概念。普遍认为有五个关键的阶段。

第一个阶段是需求定义,它指的是清楚说明系统所希望的需求即其功能特性和运行细节的这个阶段。该阶段输入的是对该软件的要求的陈述。不允许错误带到后续阶段,这点至关重要。具有创造性是第二阶段即设计的特征。虽然有些人认为创造性是与生俱来的东西,无法训练和提高,可是借助于妥善的步骤和良好的工具,它肯定可以被提高。这个阶段输入的是已调试且有效化了的需求文档,输出的是以某种合适的形式表示的一个设计。第三阶段是实现,是对第二阶段开发的设计进行实际编码。第四阶段是测试,用来证明所实现的程序是否正确。有两种测试方法:黑箱测试和白箱测试。黑箱测试是由系统测试工程师和用户来进行,而白箱测试是程序员的责任,因为程序员对程序里发生的一切一清二楚。程序员要确保已测试过每一个指令和每一个可能发生的情况,这决非易事。一些测试不可避免地作为前两个阶段的一部分而被执行过了。第五阶段是程序维护,它涉及的是对设计缺陷的修复,而不涉及硬件维护时对已损坏部件的修复。修复设计缺陷也许包括提供附加功能以满足新需求。

软件设计可以用相同的方式来考虑。为了将各个需求转变成为一个工作系统,设计师们必须使顾客和程序开发小组里的系统构造师都满意。

在软件工程上,面向对象的方法学被用来开发系统生命周期,在开发中对各数据对象、其允许的动作和基本的通信需求采取一个自上而下的方法来定义一个系统的结构。面向对象似乎是设计实时应用程序和在线应用程序的一种有效的方法。

改编自“软件工程”

练习

I. Fill in the blanks according to the passage of "Software Engineering".

1. problem, computer, people, equipment, computers, documentation, software engineering, necessary, sufficient
2. the requirement definition, design, implementation, testing, the program maintenance
3. creativity
4. coding
5. black box, white box, the system test engineer, the user, the programmer
6. design, implementation

II. Answer the following questions briefly.

1. Software engineering can be defined as the application of tools, methods and disciplines to produce and maintain an automated solution to a real-life problem.
2. It consists of people, equipment, computers, documentation and otherwise.
3. It takes a considerably long period of time to complete a large-scale software project.
4. There are five key phases in the software life cycle. They are requirements definition, design, implementation, testing and program maintenance.
5. Black box testing and white box testing are the two types of testing. Black box testing is conducted by the system test engineer and the user while white box testing is the responsibility of the programmer who knows exactly what is going on inside the program.
6. In software engineering, object-oriented methodology is applied to system lifecycle development.

III. Translate the following expressions into Chinese or English.

1. object-oriented methodology
2. 系统构造程序,系统构造师
3. white box testing
4. development team
5. 软件工程
6. software life cycle
7. sufficient condition

8. 必要条件

9. 实时应用程序

10. requirements definition

IV. Translate the sentences listed below and the passage of "Software Engineering" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences

1) 他成功阻止了错误进入后续阶段,这促进了软件工程项目的完成。

2) 他们已作了很大努力,要帮助他找到针对他问题的一个好的自动化解决方案。

3) 那是个麻烦的时期,这是大家最容易看得出来的。

4) 面向对象的方法学可以应用到软件工程的系统生命周期的开发上,这是一个普遍公认的观点。

5) 这位有经验的程序员似乎为其在正式测试阶段前对生产的每一条线路从内心去检测它的能力而感到自豪,这是合乎情理的。

2. The passage "Software Engineering"

参见汉译文。

第 6 单元

A 部分 国际商务英语

运　　输

运输,英文为 transport 或 transportation,它是将人或物从一个地点运到另一个地点。有几种运输方式,如航空运输、铁路运输、公路运输、水路运输、缆索运输、管道运输和太空运输,每种运输方式都涉及基础设施、车辆和运营。

运输设施由运输所需的各种固定设施组成,有航线、铁路、公路、水路、管道以及诸如机场、火车站、公交车站、仓库、卡车运输站、加油站(包括加油码头和燃油站)和海港之类的终点站。可在终点站运输人和货物,也可在此开展维修业务。在这些线路上运行的车辆主要包括自行车、摩托车、汽车、火车和飞行器。运营处理车辆的运行方式和专为此目的所设的融资、法律和政策程序。在运输业,运营和设施的所有权可以是私有的,也可以是公有的,这取决于涉及的国家和运输方式。

有三种承运人所有权形式，或称合法运输形式，即公共承运人、契约承运人和自有承运人。公共承运人是私有或公有公司向所有托运人承诺在平等、无歧视的基础上提供同等质量的运输服务。独立的合同可在托运人和承运人之间签订。有了正式协议，运输公司成了契约承运人。相当数量的商号倾向于炫出自己的运输能力并成为自有承运人。

有一些因素影响着运输业，这些因素是对运输管制的放松、能及时供应的库存系统、基于提供高水平客服的竞争和商业的全球化等。

运输对工业社会的发展和运行来说必不可少。它使提高效率和生产率所需的工作和努力可以专门化。假如一个社会没有先进的运输系统，那么它只会处于原始状态。运输在一定程度上促进了社会的分工。

改编自“运输”

练习

I. Fill in the blanks according to the passage of “Transport”.

1. people / passengers, goods / freight / cargo
2. interchange, maintenance
3. public, private, transport / transportation
4. common carriers, contract carriers, private carriers.
5. transportation deregulation, just-in-time inventory systems, competition based on high levels of customer service, globalization of business
6. specialization, efficiency, productivity, advanced transportation system, the social division of labor

II. Check your comprehension.

1. Transport or transportation is the movement of people and goods from one location to another. There are several modes of transport like air, rail, road, water, cable, pipeline, and space, each of which involves infrastructure, vehicles, and operations.
2. The transport infrastructure consists of the fixed installations necessary for transport, which are airways, railways, roads, waterways, cables, pipelines, and terminals such as airports, railway stations, bus stations, warehouses, trucking terminals, refueling depots (including fueling docks and fuel stations), and seaports.
3. No, they can be either public or private, depending on the country and

mode.

4. There are three legal forms of transportation. They are common carriers, contract carriers and private carriers.

5. Common carriers are privately or publicly owned company committed to providing all shippers with a movement service of the same quality on the basis of equality and nondiscrimination.

6. There are some factors that are influencing the transportation industry, which are transportation deregulation, just-in-time inventory systems, competition based on high levels of customer service and globalization of business. Transportation is very important to the development and operation of an industrial society. In a sense it enhances the social division of labor.

III. Match Column A with Column B.

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

IV. Translate the following sentences into Chinese.

1. 这些运输方式在运营特点和运输能力方面都不同，由此它们各有相对的优势和劣势。

2. 一个先进的运输系统对于社会的发展十分重要，否则社会仍将原始和落后。

3. 许多商号利用能及时供应的库存系统，采用这种系统后他们只需保持数量很少的生产投入。

4. 运输已使我们得以与全世界的其他国家进行贸易，并且这种商业交流已帮助消除了国与国之间的许多障碍。

5. 国际运输跟国内运输不同的一点是国家之间的流通伴随着比国内运输多得多的单据。

B部分 机电英语

轨道运输

轨道运输被定义为采用在轨道上行驶的轮式车辆运输货物和乘客的方式。目前国际轨道交通主要包括地铁、轻轨、市郊铁路、有轨电车以及磁悬浮列车等多种类型。

英国是铁路的故乡。在1825年，比美国人早五年，英国人就建成了世界上第一条铁路。然而，美国是世界上拥有铁路线最长的国家。

地铁

地铁 underground 在英语中也叫 subway，tube 或 metro。地下铁路系统用于运输市内和郊区的大量乘客。地铁通常建造在城市的街道下面，因为这样便于走捷径。有时它们必须在河流下面通过。铁路系统露在外的部分通常冒出地面，变成了常规铁路或高架铁路。地铁列车通常由在运行多单元系统上的一些车厢组成。

首个地铁系统是由一位伦敦市律师查尔斯·皮尔逊提议为伦敦建造的，它是作为 1843 年泰晤士河隧道开通后不久城市改造计划的一部分。现今，世界上许多大城市都拥有地铁。旅客必须持地铁代币、代币卡或特定面值的零钱才能上站台。

轻轨运输

最初构建于 20 世纪 70 年代或者更晚些时候的轻轨运输是一种电气化的铁路系统。轻轨运输的特征是能开动单节车厢或多节车厢的列车，沿专用、半专用或共用的铁道线运行，铁道线可设在地表、高架桥、地铁上，有时设在街道上。乘客可以在设在沿线的站台上下车，并且轻轨电车通常将其上方的电缆作为其动力来源。

在当前大多数情况下，轻轨除了“轻”之外是按照严格的标准建立起来的。轻轨列车运行速度一般比重轨列车慢。依靠这特定的系统，轻轨站之间的距离要比重轨的短，这给城市设施增添了某些较大的优势。

市郊铁路

在一些国际性大都市如纽约、伦敦、巴黎和东京，大部分城市运输是由城市之间的铁路运输来承担的。涉及的许多铁路线原本是为城市之间的通行而设的，这使铁路沿线的土地上兴起了新的城市，由此，地区性通行的数量日益增加。到 1920 年前后，由于大量的交通需求，市郊铁路线持续增加。然而，从那时起，由于铁路运营费用太高以及不愿通过管理手段向长途乘客和货主征收城市交通建设费，许多线路已经被废弃。

确定中央终点站的位置是城市轨道服务的一个主要问题。车辆不需要在拥挤的终点站调头，这使通行能力得到提高。在巴黎，郊区的轨道线在到达旧的终点站之前，转向进入经过城市内部的新的铁路线网。这种运行是重轨运输居中和市郊铁路在外的混合方式。

有轨电车

有轨电车 streetcar，英文也叫 tram 或 trolley car，是在铺于街道的轨道上行驶的车辆，通常以单个车辆的方式运行并由电动机来驱动。

早期的有轨电车不是马拉就是靠昂贵且效率低下的蓄电池供电。1834 年

托马斯·达文波特，一位美国的铁匠，制作了一台由电池驱动的小马达并用它在一段短程铁轨上使一辆小型电车开动。

安德鲁·哈利迪发明的缆车1873年在旧金山一些街道上启用。缆车由循环缆索拉动，缆索在处于轨道之间的槽沟里运行并越过发电站里由蒸汽动力驱动的轴。

在19世纪90年代和20世纪的头20年里，常规的电车轨道在欧洲和美国取代了马拉车线路，并出现在亚洲、非洲和南美洲的许多大城市里。

在20世纪末期仍然有许多重要的有轨电车系统在运行，然而，主要是在中欧、东欧及俄罗斯的城市里。有轨电车系统大部分是属于市政府的，不允许私车参与竞争。在20世纪80年代，美国的一些城市开始采用轻轨运输。

磁悬浮技术

铁路技术中近年来一个最为激动人心的革新就是磁悬浮技术，英文可以写作magnetic levitation或Maglev，这种技术根据磁引力和斥力的原理。这种新技术尽管仍处于发展之中，但必将会使列车运行得更快、更稳、更有效、更舒服和更环保。列车再也不会在钢轨上发出隆隆的响声，相反地，列车悬浮在磁轨上运行，不会与地面直接接触。

改编自“铁路交通的发展”、“铁路工程建设”、“有轨电车”和“地铁”

练习

I. Fill in the blanks according to the passage of “Rail Transport”.

1. underground, light rail transit, commuter railway, streetcar, maglev

2. hometown, 1825, five, longest

3. subway, tube, metro, aboveground, elevated

4. light rail transit, the 1970s, lower

5. The cable car, 1873, a steam-driven shaft

6. magnetic levitation, magnetism attraction and repulsion

II. Answer the following questions briefly.

1. Rail transport is defined as the means of movement of freight and passengers and goods by way of wheeled vehicles running on rail tracks. Currently, international rail traffic mainly consists of such types as the underground, light rail transport, commuter railway, streetcar and maglev.

2. Yes, I can. They are subway, tube, and metro. The underground railway

system is used to transport large numbers of passengers within urban and suburban areas. Charles Pearson, a city solicitor, proposed the first subway system.

3. It was constructed in the 1970s or later. It is able to operate single cars or multi-car trains along exclusive, semi-exclusive or shared rights-of-way at ground level, on aerial structures, in subways, or occasionally in streets, and it is able to board and discharge passengers at station platforms.
4. Up to about 1920, commuter railways increased constantly because of a high traffic demand.
5. Early streetcars were either horse-drawn or depended for power on storage batteries that were expensive and inefficient. In 1834, Thomas Davenport, a blacksmith from the U.S.A., built a small battery-powered electric motor, and he used it to operate a small car on a short section of track.
6. No, they won't. They can manage to get rid of that loud noise by floating along a magnetic cushion without any direct contact with the ground.

III. Translate the following expressions into Chinese or English.

1. 蓄电池
2. elevated transit line
3. 轨道,铁路线路
4. heavy rail transit
5. 调头
6. endless cable
7. 磁力悬浮火车,磁力悬浮,磁悬浮
8. environment-friendly
9. 架空电线
10. 轨道运输,铁路运输

IV. Translate the sentences listed below and the passage of "Rail Transport" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences
   1) 英国人在1825年比美国人早5年建造了第一条铁路。
   2) 上海拥有广泛、复杂而快捷的运输系统。
   3) 轻轨运输是构建于20世纪70年代或者更晚些时候的一种电气化铁路系统。

4）铁路技术中最激动人心的革新之一是根据磁引力和斥力原理的磁悬浮技术。

5）重铁运输线路只在交通需求量大时才建造。

2. The passage “Rail Transport”

参见汉译文。

第 7 单元

A 部分 国际商务英语

国际贸易中的主要单据

国内贸易和国际贸易的一大区别是单证。每批出运货物都得附有正确单据。若单据不正确的话，出口商会难以收款，尤其在使用跟单信用证的情况下，提交的单、单之间和/或单、证之间有任何不符就会导致银行拒绝付款；进口商收货会有麻烦；由不正确单据引起的延误会影响贸易伙伴之间未来的商务关系。交易不同，所要求的单据不同，这取决于诸如交易性质、交货条件、商品种类、信用证的规定、不同国家的规定和做法等因素。尽管如此，大多数交易需要如下几种主要单据。

发票

发票是商业发票的简称，它是由卖方签给买方指明货物、数量、商定的卖方提供给买方的货物的价格的一种商业单据。从卖方观点来看，发票是一种销售发票，而从买方的观点来看，发票是一种采购发票。其他单据是在发票基础上缮制的，银行审核信用证条款和单据之间、单据和单据之间的一致性。一般来说，发票包含如下内容：发票号码和日期；买卖方的名称和地址；合同号码，信用证号码有的话也写在发票上；对货物的描述，包括货物名称、数量、规格等；单价和总额，价格条款，若有佣金和折扣的话也要写上；交货条件和付款条款；包装、唛头等；出口商的印章或签字。该多加注意的是，发票上对货物的描述得与信用证一致，而在其他单据上可以对货物作一般性描述，并且该强调的是，发票总值不应超过信用证总值。

装箱单

另一个重要单据是装箱单，它出示的信息有号码、日期、货物名称和描述、唛头、包装、件数、每件的具体内容、净重和毛重等。有时候，信用证规定要提供类似于装箱单但着重于描述货物规格的规格单。重量单（英文为 weight list，

weight memo 或 weight note)在内容和作用上与装箱单相似,但强调货物的重量,一般用于基于重量来计算价格的货物。

提单

提单作为一个重要单据有三大作用。首先,它充当由承运人签发给托运人即发货人的货物收据。第二,它充当承运人和托运人之间的运输合同。第三,它充当货物的物权凭证,提单的合法持有人就是货物的所有人。提单主要详述承运人、托运人即发货人、收货人、被通知人即货物到达目的港后被通知的一方、对货物的一般性描述、装运港和目的港、运费、提单签发地、被视作装运期且绝不可晚于信用证规定时间的提单签发日期。大多数信用证规定要"清洁、已装船提单"。清洁提单指明货物已装船,外表状况良好。已装船提单表明货物实际上已装到将开往目的港的船只。有其他一些单据类似于海运提单,如用于航空运输的空运提单和用于铁路运输的铁路运单、货物收据等。

保险单和保险凭证

保险单和保险凭证作用相似,但后者比前者简单一点。这样的一种保险单据主要涵盖被保险人、对货物的描述、保险金额和险别、有关运输的内容、理赔地点、可早于但绝不可晚于提单日期的签发单据的日期。

原产地证书

原产地证书(常常缩写为 CO 或 COO)是一份传统上表明已装运货物原产自何处的单据。这样一份证书里的"原产"并不是指货物运自哪国,而是指货物实际在哪国制造。假如相当于货物销售额的 50%以上的货物部分原产自一国的话,这个国家可以被接受为原产地国(那么该"国家含量"就是超过了 50%)。在不同国际协议中,国家含量的其他百分比也可以接受。当不同国家联合履行贸易协议时,它们会允许原产地证书上写明该贸易集团所在国是原产地,而不是某个具体的国家。

也许根据货物性质和具体国家的规定需要其他一些证书,这些证书包括质量证书、重量证书、数量证书、卫生证书、消毒证书、兽医证明书等。

另外,其他可能需要的单据有海关发票、领事发票、领事签证、装运通知等。

改编自"世界贸易中所需要的主要单据"

练习

I. Fill in the blanks according to the passage of "Major Documents in International Trade".

1. documentation, documents

2. sales, purchase
3. the packing list, the specifications
4. the packing list, the weight, the weight, price calculation
5. a cargo receipt, a contract of carriage, a document of title, the owner, the airway bill, the railway bill
6. similar, simpler

II. Check your comprehension.

1. One major difference between domestic trade and international trade is documentation. With incorrect documents, the exporter will have difficulties making collections, especially when it is the case of documentary letter of credit, under which credit any discrepancy among the documents presented and / or between the documents and those requirements specified in the credit may result in refusal by the bank to make payment; the importer will have trouble taking delivery; and delays brought about by incorrect documentation may affect future business relationship between the trading partners.

   Different transactions require different documents because it depends on such factors as the nature of the transaction, the term of delivery, the type of commodity, the stipulations of the letter of credit, regulations and practices in different countries and so on.
2. If it is a documentary letter of credit, the description of the goods in the invoice should be in line with the credit. And the total invoice value should not exceed the total amount of the covering L/C.
3. Yes, I can. They are the specification list and the weight list which is also called weight memo or weight note.
4. The bill of lading has three major functions. First of all, it acts as a cargo receipt signed by the carrier and issued to the shipper or consignor. Secondly, it serves as a contract of carriage between the carrier and the shipper. Thirdly, it plays the role of a document of title to the goods, and the legal holder of the bill of lading is the owner of the goods it covers.

   A clean bill of lading indicates that the goods have been shipped in apparent good order and condition. An on board bill of lading states that the shipment has been actually loaded on the carrying vessel bound for the port of destination. According to understanding, "a clean, on board bill

of lading" is the combination of the above two kinds.

5. The requirement is that the date can be made earlier but by no means later than the date of the bill of lading.
6. When countries unite in trading agreements, they may allow the certificate of origin to state that the trading bloc is the origin rather than one specific country.

III. Match Column A with Column B.

1 D　2 H　3 F　4 B　5 G　6 C　7 A　8 E

IV. Translate the following sentences into Chinese.

1. 一般简称为"发票"的商业发票构成了缮制其他单据的基础。
2. 据估计,货物损失中多达40%的部分可以通过妥善包装和标示加以避免。
3. 保险已几乎进入人类的每一项活动。就国际贸易而言,不同种类的险别可以涵盖在一份保险单或保险凭证之下。
4. 有三大作用的海运提单是出运货物时一种必不可少的单据。
5. 空运提单充当装上飞机货物的收据并也是运输合同。

B部分 机电英语

汽车计算机

汽车的发展趋势变得越来越先进和复杂,部分原因是微处理器在汽车上的广泛应用。虽然微处理器给你操作汽车时带来难度,但实际上一些处理器使维护工作变得更不费力。

微处理器使用数量增加的部分原因是为满足减少尾气排放和节约燃料的要求而需要设计复杂的发动机控制器、追求先进的诊断方法、汽车设计和制造的简化、汽车配线的简化、新颖的安全特征和新颖的舒服又方便的特征。这些原因影响了对汽车的设计,探讨如下。

复杂的发动机控制器

随着法律对汽车尾气排放量的规定越来越严格,需要复杂的发动机控制器来控制空气/燃料混合物,以使催化式排气净化器能从排气装置里排除大量污染物。控制发动机是汽车上使用处理器最密集的操作,且发动机控制单元(ECU)是大多数汽车最强大的计算机。ECU使用闭环控制,即利用监控一个系统的输出来控制其输入的控制模式,以此管理发动机的排放和燃料节约以及许多其他的参数。ECU确保排放量最少和里程最长。

处理器和其他数百个组成部件一起被整合在一块多层电路板上。ECU 中支持处理器的其他一些组成部件有模数转换器、高级数字输出器、数模转换器、信号调节器和通信码片。

先进的诊断方法

借助于通信总线，每个模块都可将故障信息发到一个中心模块上，该中心模块存储这些故障信息并将它们传送到一个板外诊断工具上。这帮助技师们诊断汽车的问题，尤其是时断时续的问题。

简化的汽车设计和制造

汽车设计者和制造商一直都重视通信标准的重要性；换句话说，通信标准使汽车设计和制造变得容易。汽车仪表板是一个典型的例子。

仪表板收集并显示汽车各部位的数据，这些数据大多已被汽车上的其他模块使用过了。汽车上的所有这些模块将数据发送到通信总线上，ECU 就会以每秒若干次的速度发送出包含标题和数据的信息包。当收到新数据时，仪表板只是简单地监控通信总线并更新表上的数值。

大多数汽车制造商购买完全由供应商装配的仪表板，这些仪表板是供应商按照汽车制造商的规格要求设计的。确保将正确数据输出到通信总线上，是制造商责无旁贷的。这会使汽车制造商和供应商设计仪表板的工作容易了很多。

简化的配线

多路技术是一种能简化汽车配线的技术。在旧式汽车里，线路从每个开关连接到由其供能的装置上。年复一年，供驾驶员操控的装置越来越多，多路技术对于防止线路失控来说是有必要的。在一个多路技术系统里，包含至少一个处理器的模块使车内某个区域内的输入和输出合并。

新的安全特征

给汽车装上安全系统很重要，不装的话驾车会很危险。如今，有诸如 ABS、气囊、牵引控制系统和稳定性控制系统这些常见的安全系统。每个这样的系统都使汽车里增加了一个新模块，并且这个模块包含多个微处理器。当沃尔沃的安全概念车（SCC）出现在 2001 年北美汽车展览会上时，它标志着新安全特征的出现。SCC 包含可活动的后视镜、后保险杠传感器、保持车道技术等。将来，当增加新安全系统时，会有越来越多上述类型的模块遍布全车。

新颖的舒服又便利的特征

随着时间的推移，为了舒服和便利，越来越多的先进汽车特性已经出现或将出现，这要求有越来越多包含多个微处理器的电子模块。比如，Dodge Super8 Hemi 概念车展示了一些舒服又便利的特性，如有无线因特网接口、对汽车许多

功能的声控、视频、空调、电话等。

改编“汽车计算机的工作原理”

练习

I. Fill in the blanks according to the passage of “Automobile Computers”.

1. the need for sophisticated engine controls to meet the requirement of emission reduction and fuel economy, advanced diagnostics, simplification of the design and manufacture of automobiles, reduction of the amount of wiring in automobiles, new safety features, new comfort and convenience features.

2. design and manufacture, the simplification

3. wiring

4. ABS, air bags, traction-control systems, stability-control systems

5. the then new safety features

6. wireless internet access, voice control of many automobile functions, video, air conditioning, phone

II. Answer the following questions briefly.

1. The bad side of the microprocessors applied to automobiles is that they make it difficult for you to work in your automobile, and their good side is that some of them, as a matter of fact, make maintenance an easier job.

2. The following factors have influenced the design of automobiles: the need for sophisticated engine controls to meet the requirement of emission reduction and fuel economy, advanced diagnostics, simplification of the design and manufacture of automobiles, reduction of the amount of wiring in automobiles, new safety features, and new comfort and convenience features.

3. Because the ECU (engine control unit) is the most powerful computer of most automobiles. The ECU uses closed-loop control, a control scheme that monitors outputs of a system to control its inputs, for the purpose of managing the emissions and fuel economy of the engine as well as a host of other parameters. The ECU ensures the lowest emissions and best mileage.

4. It can be used to simplify the wiring in an automobile.

5. The instrument cluster of the automobile is one typical example of the simplification of automobile design and manufacture. The instrument cluster gathers and displays data from various parts of the automobile. Most of the data have already been used by other modules in the automobile. All of the modules in the automobile send the data to the communications bus. Several times a second, the ECU will send out a packet of information consisting of a header and the data. The instrument panel simply monitors the communications bus and updates the gauges when it receives new data. Most automobile manufacturers buy the instrument clusters fully assembled by a supplier, who designs them to the automobile manufacturer's specifications. The manufacturer is responsible for making sure that the correct data is output to the communications bus. This makes the job of designing the instrument cluster a lot easier, both for the automobile manufacturer and the supplier.
6. Volvo's Safety Concept Car (SCC) appeared at the 2001 North American Auto Show, and the appearance of the car marked the arrival of the then new safety features.

III. Translate the following expressions into Chinese or English.

1. 安全概念车
2. engine control unit (ECU)
3. 仪表组
4. (汽车等的)催化式排气净化器
5. ABS (anti-skid brake system)
6. 稳定性控制系统
7. 可活动的后视镜
8. auto show
9. closed-loop control
10. 通信总线

IV. Translate the sentences listed below and the passage of "Automobile Computers" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences

1) 这使得汽车制造商不必去了解有关传感器的所有繁杂的细节。

2) 假如没有保持车道技术,当车偏离车道时,就不会有警报响起。

3) 似乎很清楚，汽车制造商将毫无限制地将众多技术用到汽车上。
4) 在2001年的北美车展上，沃尔沃安全概念车是一辆显示了一些即将出现的安全特性的异乎寻常的车。
5) 虽然仍然存在许多汽车问题，但是先进的诊断法帮了技师们很大的忙。

2. The passage "Automobile Computers"
参见汉译文。

第8单元

A部分 国际商务英语

商务信函写作

商务信函一般写作的目的是给予或索取信息、报盘或发盘、处理有关商务谈判或履行的事务以及提醒对方发信人的存在。基本上商务信函写作与其他形式的写作没什么差异。必须扎实掌握用以写作的语言。为了写出良好的英语商务信函，英语流利是一个基本因素。另外，还有其他一些应注意的要素，即商务信函应该清楚、简洁、正确和有礼貌。

使商务信函清楚明白是很必要的，以便不会被误解。这个目标可以通过使用好听、坦白和简单的字眼来达到。清楚和简洁分不开。然而，要简洁未必一定要写短信。有时候，为了彬彬有礼，也许要牺牲一点简洁。一般来说，选择短句，一段陈述一点，这样可以使商务信函清楚简洁。另外，要用正确的字眼来清楚表达。还有，在商务信函中注意礼貌很重要，及时复信、不卑不亢和巧妙处理商务分歧，都是正确的做法。

打印信件时，应使信干净清晰，留出左右和上下边距。若是短信，可用双倍行距。信的正文应放在每页适中的位置。英语商务信函可以是缩行式(样例1)、齐头式(样例2)或混合式(样例3)。信由八大部分组成，即信头、信内地址、称呼、信的正文、结束语、作者签名、附件和又及。

样例1 缩行式

(1) 信头。

英国
伦敦 E14 8PH
马诺尔街315号

独立纺织品有限公司
采购部

2010年10月11日

(2) 信内地址。

中华人民共和国
上海200000
兴隆进出口公司
进出口部
销售经理
李林云先生

(3) 称呼。

尊敬的先生,(或:)

(4) 正文。

关于:全棉T恤衫

五年来我们与之保持稳定业务关系的鲍勃·布朗有限公司向我们推荐了贵公司。

我们想采购100%全棉T恤衫。假如有的话,请提供目录、价格单和说明书各一份。

期待贵司早日答复。

(5) 结束语。

谨上

(6) 签名。

(签名)
约翰·史密斯
采购经理

注:上述(5)、(6)项一般合译为"采购经理约翰·斯密斯谨上"。

(7) 附件。

附件:鲍勃·布朗有限公司的推荐信

(8) 又及。

又及:请航空邮寄所有资料。

样例 2 齐头式

(1) 信头。

中华人民共和国

上海 200000

兴隆进出口公司

进出口部

2010 年 10 月 16 日

(2) 信内地址。

英国

伦敦 E14 8PH

马诺尔街 315 号

独立纺织品有限公司

采购部

约翰· 史密斯先生

(3) 称呼。

尊敬的先生,(或:)

(4) 正文。

关于:全棉 T 恤衫

感谢您发来的署期 2010 年 10 月 11 日的信。按要求,我们附上全棉 T 恤衫的目录、价格单和说明书各一份供您参考。

我们会很高兴向您提供任何进一步的帮助。

(5) 结束语。

谨上

(6) 签名。

(签名)

李林云

销售经理

注:上述(5)、(6)项一般合译为“销售经理李林云谨上”。

(7) 附件。

附件:全棉 T 恤衫的目录、价格单和说明书各一份

(8) 又及。

又及:假如您需要任何别的信息,请联系我们。

样例3　混合式

(1) 信头。

英国
伦敦 E14 8PH
马诺尔街315号
独立纺织品有限公司
采购部

2010年10月21日

(2) 信内地址。

中华人民共和国
上海 200000
兴隆进出口公司
进出口部
销售经理
李林云先生

(3) 称呼。

尊敬的先生,(或:)

(4) 正文。

关于:全棉T恤衫

我们收到了您署期2010年10月16日的信,感谢您发来的我们今天收到的目录、价格单和说明书。

我们对贵司货号为1021的全棉T恤衫感兴趣,但很遗憾贵司价格比提供类似品质产品的其他供货商的价格贵了约10%。

假如您能将价格降到我们能接受的水平,我们也许会考虑向您下可观的订单。

我们相信您会感觉我们上述提议可以接受并让我们及时收到您的合我们意的答复。

(5) 结束语。

谨上

(6) 签名。

(签名)
约翰·史密斯
采购经理

注：上述(5)、(6)项一般合译为“采购经理约翰·史密斯谨上”。

(7) 附件(没有附件就省略此项)。

附件：

(8) 又及(没有又及就省略此项)。

又及

改编自“商务信函写作”

练习

I. Fill in the blanks according to the passage of “Business Letter-writing”.

1. clear, concise, correct, courteous

2. good, straightforward, simple

3. conciseness

4. supercilious, obsequious, diplomacy, tact

5. right-hand, top, bottom

6. indented, blocked, modified

II. Check your comprehension.

1. In general, the purpose of business letter-writing is to give or take messages, make or accept an offer, handle matters concerning business negotiations or performance, and remind the other party of the sender's existence.

2. When one desires to write a good English business letter, the following important factors should be paid attention to: fluent English, clearness, conciseness, correctness and courtesy.

3. One can be courteous in business correspondence if one answers business letters in time, is neither supercilious nor obsequious, and settles business differences with diplomacy and tact.

4. When the business letter is typed, left-hand and right-hand margins as well as top and bottom margins are necessary to make a business letter clear and clean.

5. In general, the business letter can be written in the indented style, the blocked style or modified style.

Yes, I can. They are the letterhead, the date, the inside address, the salutation, the body of the letter, the complimentary close, the writer's

signature, the enclosure, and the postscript.

6. He said in his letter that Mr. Li Linyun's company had been recommended to them by Messrs. Bob Brown Ltd., London, with whom they had kept stable business relationship for five years, and he enclosed the Letter of Recommendation from Messrs. Bob Brown Ltd. to certify his trustworthiness. The pressure was that if Mr. Li Linyun could not bring down the price as requested, he would lose the chance to do business with Mr. John Smith because Mr. Smith had other suppliers for similar quality products at a price about 10% lower than the price given by Mr. Li's company.

III. Match Column A with Column B.

1 C　2 E　3 A　4 H　5 B　6 D　7 F　8 G

IV. Translate the following sentences into Chinese.

1. 我们很高兴地通知您我们对您的产品感兴趣，若您向我们报价的话我们将很愉快。（备注：若都是公司，“我们”也可以翻译成“我方”或“我们公司”，“您”也可翻译成“贵方”或“贵公司”）
2. 如果贵方能对下列产品提供最低价格的话，我们将不胜喜悦。
3. 我们发现贵方报价比我们从其他地方收到的稍微偏高，请贵方降价，以适应竞争。
4. 贵方未能按规定的时间发货给我方造成了极大的不便。
5. 我们切盼贵方进一步的消息。

B部分　机电英语

通信系统综述

通信是将信息从一地传递到另一地，传递的路径可以是短途的，就如同两个人面对面彼此交谈一样，或者就像计算机将信息输出到放置在同一房间的打印机一样。电信通信是远距离通信，信息源既可以是模拟信息（声音），也可以是数字信息。音频既可直接传递到音频通信频道，也可用于调节载波频率，继而传递已调波形。声源信息也可以以数字形式传递。多媒体数字信号编译码器（编码器/译码器）的集成电路能够将音频信号转换成一系列脉冲，或者也可接收数字脉冲，再将数字脉冲转换回音频信号。多媒体数字信号编译码器或类似的电路在发送和接收终端完成必要的转换作用，数字脉冲本身在称作数字T型载波的特殊线路上传递。一般来说，数字通信是以数字形式传递信息的，而信息源或者

是数字信息，或者是模拟信息。数据通信是传递那些从本质上讲原为数字的信息，这种信息既可以通过数字信号传递也可以通过模拟信号传递。

计算机系统和数据通信系统可以很简单，也可以非常复杂。数据通信系统可能只是一台计算机和一个远程终端的连接，也可能是一台中央计算机和许多终端的连接。银行就是一个很好的例子，城市里所有的分行均与一个主机连接。这些通信系统可大致分为两点通信系统或多点通信系统。发送信息的计算机被称为主动装置（主机），而另外一个则被称为从动装置（辅机）。显然，这些作用可以根据哪台电脑发出信号而相互改变。在这样的两点通信系统内，当两台计算机企图同时发出一个信号时就会出现竞争的问题。如果出现这种情况，内装的延时电路可以解决这个问题，而且给其中一个以优先权传递。

多端连接采用许多不同的网络形式；网络的选择由系统的需要而决定。星型网络有易于进入中心计算机的优点，相应的缺点是要为每一终端分线支付相应费用的问题。如果遥远的终端与主机的通信信息少，那么该系统就没有足够的码速调整。但是，易于进入中心计算机是主要的因素，并优于其他系统。在环形网络中，信息在回路中循环传递。每端提取并插入他们自己的信息。在这种配置中，如果回路中的一个因素出了问题（或是不能用了），整个系统就瘫痪了。备用配置可能使信息在环路中要么顺时针，要么逆时针方向循环传递。最可能使用的配置是多点通信网络，这里，所有的终端都连在同一条主线上。在这个系统里主要计算被称为主机，连接终端被称为附属机（遥控机、支流）。主机之所以被称为主机是因为它控制着所有的信息传递。附属机只有在主机允许的情况下方能传递或接受信息。主机可以同所有的附属机通信，但每个附属机只能同主机通信。如果一个附属机要向另外一个附属机发送信息，它必须将信息发送给主机，主机再将其消息转发给其欲发往的目的地。

选自“通信系统综述”

练习

I. Fill in the blanks according to the passage of “Communications System Overview”.

1. information, short, long

2. coders, decoders, integrated circuits, voice frequencies, the digital pulses

3. the transmit and receive ends, digital T-carriers

4. digital form, digital, analog, signals

5. two-point or multipoint systems, the master, the slave, which computer

initiates the call

6. system requirements, ready access, a loop

II. Answer the following questions briefly.

1. Communication is the transmission of information from one place to another. The transmission path is short when a computer is outputting information to a printer located in the same room. And it is long when telecommunication is concerned.

2. I have learnt from the passage that codecs (coders / decoders) are integrated circuits which are capable of converting voice frequencies to series of digital pulses or taking the digital pulses and converting them back to voice frequencies, and that codecs or similar circuits perform the necessary conversations at the transmit and receive ends and that the digital pulses themselves are transmitted on special lines called digital T-carriers.

3. No, both the computer system and the data communications system can be very simple or very complex. The data communications system may simply be a link between a computer and a remote terminal, or it may be a link between a central computer and many terminals. Banks are good examples of such a system in which all branch locations in a city tie into one main computer.

4. The computer which initiates information transfer is called the master while the other computer is called the slave.

5. In such a system, a problem of contention arises when both computers attempt to initiate a call simultaneously. Should this be possible, such a problem can be resolved by means of built-in delays which give one priority over the other.

6. The advantage of the star network is ready access by remote sites to the central computer and its associated disadvantage is the tariff paid for the separate lines for each terminal.

III. Translate the following expressions into Chinese or English.

1. 载波频率

2. codec

3. 数字脉冲

4. 信息传递

5. integrated circuit
6. 远距离通信
7. 信息源
8. ring network
9. 传输路径,传递路径
10. waveform

IV. Translate the sentences listed below and the passage of "Communications System Overview" into Chinese, using the translation technique learned in this part when necessary.

1. Sentences

1) 多媒体和计算机通信在当今社会起着重要的作用,这就向工作在发展电信事业中的人们提出了新的挑战。

2) 终端可以是移动的,也可以是便携的,且移动速度可以快得像快速驰骋的火车一样。

3) 为移动通信而设计的全球卫星信息系统就是一个很好的例子,它已被预见可以提供额外服务和功能并与现有系统相容。

4) 这对考虑未来的能提供高数据速率但在某种程度上并不提供这些兼容性的系统并无多大意义。

5) 当然,这取决于意欲由该系统支持的应用,取决于这些系统是以大量市场为目标还是仅以被瞄准机会的少量市场为目标。前者包括无线局域网,那是因为个人计算机的扩大使用确定了这一应用在无线宽带系统中获得成功;后者会在其使用者中进行电视广播。

2. The passage "Communications System Overview"

参见汉译文。

Appendix II
附 录 2

Glossary
总词汇表

备注：单词或词组后括号内“数字加字母”表示该单词或词组属于哪个单元的哪个部分，例如：active rearview mirror (7B)，表示 active rearview mirror 是第 7 单元 B 部分的单词。

New Words and Expressions

abbreviate (4A)	*vt.* 缩写，缩短，简化，简写成，缩写为(to) *vi.* 使用缩略词
abnormality (2A)	*n.* 变态，畸形，异常性
ABS (7B)	*abbr.* 防滑煞车系统(英文全称为 anti-skid brake system)
accept (4A)	*vt.* 承兑
access (1A)	*n.* 1. (使用或见到的)机会，权利 2. 通道，通路，入径
accompany (4A)	*vt.* 附随，附在……上
accompanying (4A)	*adj.* 附随的，所附的
account for (1A)	1. 占有，占……百分比 2. 说明〔解释〕……原因，证明 3. 对……负有责任
act as (7A)	充当，担任，担当，起……的作用

adapter (2B) *n.* 适配板,适配器
active rearview mirror (7B) 可活动的后视镜
add up to (3A) 形成,构成
advent (2B) *n.* (尤指不寻常的人或事)出现,到来
adversely (5A) *adv.* (相)逆地,反对地
advise (4A) *vt.* 通知,告知(of)
advising bank (4A) 通知行
aerial (6B) *adj.* 1. 存在或悬浮于空中的,架空的
2. 空气的,空中的
a family of CAM software (3B) 计算辅助制造软件包
a globally integrated business system (1A) 全球一体化的商务/商业/业务系统
a global village (1A) 地球村
a host of (7B) 许多,大量,一大群
air bag (7B) (安全)气囊(汽车碰撞时能自动充气,使车上的人不致撞伤)
air conditioning (7B) 空调(装置)
aircraft (6A) *n.* 飞机,航空器,飞行器
airway (6A) *n.* 1. 航线,航路
2. 航空公司
airway bill (7A) 空运提单,航运收据
alternate (4B) *vt.* 交替,轮流
alternating current (AC) (4B) 交流电
alternator (4B) *n.* 交流发电机
amend (4A) *vt.* 1. 修订,修改,订正
2. 改进,改善
vi. 改进,改善
analog(=analogue) (2B) *n.* 1. 类似物,同源语
2. (电脑)模拟
adj. 1. (钟表)有长短针的
2. (电脑)模拟的
analog-to-digital conversion board (2B) 模数转换板
analog-to-digital converter (ADC) (2B) 模数转换器
and other things (7A) 等等
and otherwise (5B) 等等
and what not (7A) 等等

apparent (7A)	*adj.* 外表上的,表面上的
applicant (4A)	*n.* 申请者,请求者
arbitration (2A)	*n.* 仲裁,公断
architecture (5B)	*n.* 电脑内部结构,结构,构造
array (2B)	*n.* 阵列,排列
as long as (4A)	只要,在……的时候
assemble (2B)	*vt.* 集合,聚集,装配
	vi. 集合
assembly (1B)	*n.* 装配,组装件,集合,集结,汇编
associate (3A)	*vt.* 使发生联系,使联合,联想(with)
	vi. 交往,结交(with)
	n. 合作人, 同事
	adj. 副的
assume (5A)	*vt.* 承担
assume risk (5A)	承担风险
at one's command (7B)	(某人)可以自由使用(支配)
audio amplifier (2B)	声(音)频放大器
automated solution (5B)	自动化解决方案
auto show (7B)	车展,汽车展览会
awaken sb. to sth. (1A)	使某人意识到某事
axis (1B)	*n.* (pl. axes)轴,轴线
backup (8B)	*n.* 备用,替代
be acquainted with (3A)	熟悉
bearing (4B)	*n.* 轴承
be characteristic of (5B)	是……的特色/特征
be coupled with (4B)	与……连接
be entitled to (3A)	有……的资格,有权
be in direct proportion to (4B)	与……成正比例
beneficiary (4A)	*n.* 受惠者,受益人
bid farewell to (3A)	向……告别,辞行
bilateral (4A)	*adj.* 有两面的,双边的
bilingual (4A)	*adj.* 能说两种语言的
bill of exchange (3A)	汇票
bill of lading (3A)	提单
bill of material (3B)	材料清单,用料单(缩写为 b.o.m.)

binary (2B) *adj.* 二进位的,二元的
binary digit (2B) 二进制位,二进制数字
binding (2A) *adj.* (书面材料)有约束力的,应履行的
black box testing (5B) 黑箱测试
black sheep (2B) *n.* 害群之马,败家子
blocked style (8A) 齐头式
bound (for/to) (7A) 正在前往的,打算前去的
breach (5A) *n.* 违反,不履行
bring down (8A) 降(价)
brochure (8A) *n.* 说明书,小册子,情况介绍手册
build in (1B) 安装,固定
building block (3A) *n.* (儿童游戏用的)积木
built-in (8B) *adj.* 内装的
bumper (7B) *n.* (汽车上的)保险杠,缓冲器
business contract (2A) 贸易(交易)合同
business firm (6A) 商号
by no means (7A) 绝不,一点也不,根本不,决不
cable (6A) *n.* 1. (船只、桥梁等上的)巨缆,钢索
2. 电缆
CAD (computer-aided design) (1B) *abbr.* 计算机辅助设计
CAM (computer-aided manufacturing) (1B) *abbr.* 计算机辅助制造
cargo policy (5A) 货物保险单,货物保单
cargo receipt (7A) 承运货物收据
carrier (6A) *n.* 承运人,搬运人,送信人,运输工具
carrier frequency (8B) 载波频率
carrying vessel (7A) 装货船只,载货船只,承运船只
catalytic converter (7B) (汽车等的)催化式排气净化器
categorize (8B) *vt.* 将……分类,使列入……的范畴
certificate of disinfection (7A) 消毒证书
certificate of health (7A) 健康证明,健康证明书,卫生证明书,(船只)无疫证书,检疫证书
certificate of origin (CO or COO) (7A) 原产地证书
certificate of quality (7A) 质量证书
certificate of quantity (7A) 数量证书
certificate of weight (7A) 重量证书

CIM (computer integrated manufacturing) (3B) 计算机集成制造
civil engineer (3B) 土木工程师
claim (5A) *n.* (尤指向公司、政府等)(根据保险政策、赔偿法等)要求的付款,索款、索赔
vt. & *vi.* 对……提出要求,索取,索赔
clean credit and documentary credit (4A) 光票信用证和跟单信用证
clean draft (3A) 光票
clean, on board bill of lading (7A) 清洁、已装船提单
clockwise (8B) *adj.* 顺时针方向的
closed-loop control (7B) 闭环控制
codec (8B) *n.* 多媒体数字信号编解码器
coder (8B) *n.* 编码器,程序编写员
commercial invoice (7A) 商业发票
commission (7A) *n.* 佣金,回扣
common carriers (6A) 公共承运人
common pool (5A) 共同的(保险)基金
communications bus (7B) 通信总线
communication chip (7B) 通信码片
communication link (2B) 通信连接装置,通信线路
commuter railway (6B) 市郊铁路
compatible (2B) *adj.* 协调的,一致的,兼容的
compensation (2A) *n.* 补偿,赔偿
competition based on high levels of customer service (6A) 基于提供高水平客服的竞争
competitive edge (1B) 竞争优势
complimentary (8A) *adj.* 1. 表示敬意的,赞美的,恭维的
2. 赠送的
component (2B) 成分,组成部分,部件,元件
computer adapter board (2B) 计算机适配板
computer-aided process planning (3B) 计算机辅助工艺规划
computer-aided testing (CAT) (2B) 计算机辅助测试
computer interface (2B) 计算机接口
Computerized Numerical Control (CNC) (1B) 计算机数字控制(简称计算机数控)
conclude a transaction (2A) 达成交易
configuration (8B) *n.* 1. (计算机的)配置

	2. (各部分之间的)编排,配置,布局
confirmed credit and unconfirmed credit (4A)	保兑信用证和不保兑信用证
confirming bank (4A)	保兑行
conformity (7A)	*n.* 依照,遵从,符合,一致
congenital (5B)	*adj.* 先天的,天生的
consequently (2B)	*adv.* 从而,因此
consignee (7A)	*n.* 收货人,受托人,承销人
consignment contract (2A)	寄售合同
consignment sale (3A)	寄售
consignor (7A)	*n.* 1. 交付人
	2. 发货人
	3. 委托方
	4. 托运人
consolidate (7B)	*vt.* & *vi.* 1. (使)巩固,(使)加强
	2. (使)合并,(使)结成一体
consular invoice (7A)	领事发票,领事签证的发票,领事签货证书
consular visa (7A)	领事签证
contention (8B)	*n.* 争用信息,竞争
counterclockwise (8B)	*adj.* 逆时针方向的
contract carriers (6A)	契约承运人
contracting parties (4A)	合同双方
contract of carriage (7A)	运输合同,运输契约,运送合同,运送契约,运货合同
contract proper (2A)	合同正文
contractual (2A)	*adj.* 契约的
contribution (5A)	*n.* 分摊
control scheme (7B)	控制模式(图),控制线路
control system (1B)	控制系统
control unit (CU) (1B)	(电脑)控制单元
conventional (1B)	*adj.* 惯例的,常规的,习俗的,传统的
conventional machine (1B)	传统机床
correspondent (4A)	*n.* 通讯员,记者,通信者
correspondent bank (4A)	关系行
corridor (6B)	*n.* 狭长地带
counter-offer (2A)	*n.* 还盘

couple (4B) *vt.* 连合,连接
courteous (8A) *adj.* 彬彬有礼的,客气的,礼貌的,谦恭的
courtesy (8A) *n.* 谦恭有礼,礼貌
cover (5A) *vt.* 给……保险,承保,弥补,抵偿(损失等)
crank (4B) *n.* 曲柄
crank handle (4B) 手摇曲柄
credit standing (3A) 信誉
credit terms (7A) 信用证条款,赊销付款条件,贷款(信用)条件
creditworthiness (3A) *n.* 好信誉,有资格接受信用贷款
cruise (1A) *n.* 1. 乘船游览
2. 豪华游轮
cruise line (1A) 游船公司
customs invoice (7A) 海关发票
cutter (1B) *n.* 刀具,切割机
D/A (documents against acceptance) (3A) 承兑交单
DC generator (4B) 直流发电机
debug (5B) *vt.* 1. 拆除窃听器
2. 排错,排除故障
decoder (8B) *n.* 解码器,译码器,译码员
default (3A) *n.* 违约,不履行责任
depot (6A) *n.* 补给站,仓库,库房
deregulation (6A) *n.* 1. 放松管制,比较宽松的管制办法
2. 违反常规,反常
deteriorate (5B) *vi.* 恶化,变坏,退化
vt. 使恶化,使变坏,使退化
development team (5B) (程序)开发小组
diagnostics (7B) *n.* 诊断学,诊断疾病的科学及实践,诊断(信息)
digital communication (8B) 数字技术通信
digital input pulse (2B) 输入数字脉冲
digital interface card (2B) 数字接口卡
digital pulse (8B) 数字脉冲
digital T-carrier (8B) T型数字载波

digital-to-analog converter (7B) 数模转换器
diplomacy (8A) *n.* 1. 外交,外交手腕,外交术
2. 交际手腕,处世之道,(处理人际关系的)手腕,手段,策略
direct current (DC) (4B) 直流电
discipline (5B) *n.* 行为准则,纪律,学科
v. 训练
discount (7A) *n.* 1. 折扣
2. (任何面值上的)扣除额
discrepancy (7A) *n.* 差异,不符合(之处),不一致(之处)
diverse (3A) *adj.* 不同的,变化多的
divert (6B) *vt.* 使转移(向),使转向
documentary collection (3A) 跟单托收
documentary letter of credit (7A) 跟单信用证
documentary draft (3A) 跟单汇票
documentation (5B) *n.* 文件,文档
D/P after sight (3A) 远期付款交单
D/P at sight (3A) 即期付款交单
D/P (documents against payment) (3A) 付款交单
draft (3A) *n.* 汇票,草稿,草案,草图
vt. 起草,为……打样,设计
v. 草拟
drawee (3A) *n.* 受票人,(支票、汇票等的)付款人
drawer (3A) *n.* 1. 出票人
2. 抽屉
3. 画家,制图员
4. (用复数)衬裤、内裤
drawing (3B) *n.* 制图,绘图
drive (1B) *n.* (计算机的)驱动器,驾车,快车道,推进力,驱使,动力
drive motor (1B) 驱动电机,传动马达
economies of scale (1A) 规模经济
edge (1B) *n.* 1. 优势
2. 尖锐,刀口,利刃,锋,边缘
electrical discharge machine (1B) 放电加工机床,电火花加工机床

electrical power (4B) 电力,电源,电功率
electric motor (6B) 电动机
electromagnetic (4B) *adj.* 电磁的
electronic drawing board (3B) 电子绘图板
elevated transit line (6B) 高架运输路线(课文中指高架铁路)
elimination (2B) *n.* 排除,除去,消除,消灭
emission (7B) *n.* 1. 排放物,散发物,排泄物
2. 排放,散发,发出(气体、光、热)
enactment (7B) *n.* 制定,演出,展现,规定,通过
enclosure (8A) *n.* 附件,装入物
endless cable (6B) 无极钢缆,循环缆索
enforce (2A) *vt.* 实施,执行
engagement (2A) *n.* 约束力
engine control unit (ECU) (7B) 发动机控制单元
enhance (5B) *vt.* 提高,增加,加强
enquirer (2A) *n.* 询盘者,询问者,追究者
enquiry (2A) *n.* 询盘,询价,询问
environment-friendly (6B) *adj.* 有利于环境保护的
era (3B) *n.* 时代,纪元,时期,[地理学、地质学]代
exceed (7A) *vt.* 1. 超过,超越
2. (在数量和质量等方面)胜过,超过
excel (1A) *vt.* 优于,胜过(in/at)
vi. 突出,胜过他人(in/at)
exhaust (7B) *n.* 1. 排气装置,排气管(孔)
2. (车辆、发动机或机器排出的)废气
expansion slot (2B) *n.* 扩充插槽,扩展槽
experiment (3B) *n.* 实验,试验(on)
vi. 进行实验,做试验(on/with)
external (2B) *adj.* 外置的,外部的
n. 外部,外面
extract (8B) *vt.* 摘录,选取
face-to-face (2A) *adj.* 面对面的
adv. 面对面地
face-to-face discussion (2A) 面对面讨论
facilitate (2A) *vt.* (不以人作主语的)使容易,使便利,推

	动，帮助，促进
fall under (4A)	归为……类
favourable reply (8A)	合意的答复
financial market (1A)	金融市场
financial standing (3A)	财务(财政、信用)状态
financial status (3A)	财务(财政、信用)状态
finite element (3B)	有限元
firm offer (2A)	实盘
flame cutter (1B)	火焰切割机
flash converter (2B)	闪存转换器
flexibility (3B)	*n.* 柔性，弹性，灵活性，适应性，机动性
flexible manufacturing system (FMS) (3B)	柔性制造系统，柔性加工系统
flux (4B)	*n.* 磁力线，磁通量，流量，通量
force majeure (2A)	不可抗力，人力不可抗拒的事故
foreign direct investment (FDI) (1A)	外国直接投资
foreign exchange (3A)	外汇，外国汇票
forge (1A)	*vt.* 1. 艰苦干成，努力加强 2. 伪造，仿造 3. 锻造
format (8B)	*n.* 形式，格式
forward (3A)	*vt.* 1. 转交(to) 2. 发送，递送(to)
forwarding charges (5A)	交货费用，转运费
franchise (1A)	*n.* 1. 获特许权的商业机构(或服务)(synonym) dealership 2. (公司授予的)特许经销权，(国家授予的)特别经营权，特许 *vt.* 给……以特许权，出售特许权
freight (5A)	*n.* 运费
freight and forwarding charges (5A)	运输费
fuel (6A)	*n.* 燃料，燃烧剂 *vt.* 给……加燃料，给……加油 *vi.* 补充燃料
fulfill a contract (3A)	履行合同
fundamental (5B)	*adj.* 基本的，重要的，必要的

	n. 基本原则，基本法则
furnish (8A)	*vt.* 1. 陈设，布置 2. 提供
General-purpose Interface Bus (GPIB) (2B)	通用接口总线
generate (1B)	*vt.* 产生，发生
generator (4B)	*n.* 发电机，发生器
generator action (4B)	发电机作用
geometry (3B)	*n.* 几何学
give one priority over the other (8B)	在两者中给一方以优先权
give rise to (2A)	*v.* 引起，使发生
globalization of business (6A)	商业的全球化
global orientation (1A)	面向全球，全球导向
go out of commission (8B)	出故障了，不能用了，坏了
graphics user interface (GUI) (3B)	图形用户界面
grinder (1B)	*n.* 研磨者，用来磨碎东西的器械，磨床，臼齿
gross weight (7A)	毛重
guarantee (4A)	*n.* 保证，保证书，担保，抵押品 *vt.* 保证，担保
have a good command of (8A)	能驾御，很会，熟练掌握，精通于
headquarter (1A)	*vt.* 1. 将……的总部设在 2. 把……放在总部里
heavy rail train (6B)	重轨列车
heavy rail transit (6B)	重轨运输
hone (1A)	*vt.* 1. 把(刀、剑等)磨光，磨快 2. 磨练，训练(尤指技艺)
house (2B, 4B)	*n.* 套，壳，住房建筑 *vt.* 把……安装在里面，把……储藏在房内
housing (4B)	*n.* 套，壳，住房建筑
identical (2B)	*adj.* 1. 同一的，同样的 2. 完全相同的，完全相似的(to/with)
identification (5B)	*n.* 识别，辨认，鉴定，证明，视为同一
impeccable (4A)	*adj.* 没有缺点的，不会做坏事的
imperative (1A)	*n.* 1. 必要的事，紧急的事，必须完成的事，必须履行的责任，

2. 需要，必要性，必备条件

impressive (3B) *adj.* 给人深刻印象的，感人的

in accordance with (3A) 与……一致，依照

in apparent good order and condition (7A) 外表状况良好

incorporate (1B) *vt.* 1. 包含，加上，吸收

2. 把……合并，使并入

indemnity (5A) *n.* 损失赔偿，赔款，补偿

indented style (8A) 缩行式

indicator (2B) *n.* 指示器，[化]指示剂

induce (4B) *vt.* 感应

induction (4B) *n.* 感应，感应现象

in due course (8A) 到一定的时候，在适当的时候，经过相当时候，没过多久，届时，及时

industrial machinery (1A) 工业机械

industrial society (6A) 工业社会

information transfer (8B) 信息传递

infrastructure (6A) *n.* 基础设施，基础结构，基础建设

initiate (8B) *vt.* 促使，启动

in line with (3A) 符合

innovation (1A) *n.* 改革，革新，创新，革新之处

input-output connector (2B) 输入/输出接插件

in respect of (2B) 关于

installation (6A) *n.* 设备，设施，装置

instruct (4A) *vt.* 教，教导，命令，指示，通知

instrument cluster (7B) 仪表板，仪表组

instrument panel (7B) 仪表板，仪表面板，仪表控制板

insurable interest (5A) 可保权益

insurance certificate (7A) 保险凭证

insurance policy (7A) 保险单

insurance premium (5A) 保险费

insured (5A) *n.* 投保人，被保险者，保户

insurer (5A) *n.* 承保人，保险业者，保险公司

integrate (1A) *vt.* 1. 使一体化，使结合，使合并，使整合，综合，同化（常与 with，into 连用）

2. 使完整，使完善

integrated circuit (8B) 集成电路
integrate with (2B) 使与……结合
integrity (3A) *n.* 正直,诚实,完整,完全,完整性
interactive, automated system (2B) 交互的自动化系统
interchange (6A) *n.* 1. 交换,交替,交流
2. (进出高速公路的)互通式立交,立体交叉道,立体交流道
intercity (6B) *adj.* 城市间的
intercity railway (6B) 城市间的铁路
interface (2B) *n.* 1. [计算机]接口(连接两装置的电路,可使数据从一种代码转换成另一种代码),接口程序,连接电路
2. 界面,分界面
vt. 1. (使通过界面或接口)接合,连接
2. [计算机]使联系,使结合
vi. 相互作用(或影响),互相配合工作,协调地工作,匹配
interface box (2B) 接口盒
interface card (2B) 接口卡
interference (3B) *n.* 冲突,干涉
intermittent (7B) *adj.* 间歇的,断断续续的
in terms of (4A) *adv.* 根据,按照,用……的话,在……方面
internal (2B) *adj.* 内置的,内部的
n. 内部,里面
internal adapters (2B) 内置适配器
internal computer bus (2B) 内部计算机总线
international airline (1A) 国际航线,国际航空公司
international payment (3A) 国际支付
internet access (7B) 网络接口,因特网接入服务
invalid (2A) *adj.* (法律上或官方)不承认的,无效的
invoice (4A) *n.* 1. 发票
2. (发货或服务)费用清单
vt. 1. 开……的发票,把……开在发票上
2. 把……列入发货清单
vi. 发出发票(或清单)

I/O (2B) *abbr.* [计算机] Input/Output,输入/输出
it goes without saying (3A) 不用说,不言而喻
joint venture (JV) (1A) 合资企业
justification (8B) *n.* 码速调整
just-in-time inventory system (6A) 及时供应的库存系统
keyboard (2B) *n.* [计算机]键盘
knob (2B) *n.* (门,抽屉等的)球形捏手,手柄,旋钮
known (5A) *adj.* 已知的
vbl. know 的过去分词
language barriers (3A) 语言障碍
lathe (1B) *n.* 车床,[纺]走梭板
vt. 用车床加工
left-hand and right-hand margins (8A) 左右边距
legal holder (7A) 法定持有人,合法持有人
legality (6A) *n.* 合法性,法律性
letterhead (8A) *n.* 信笺上方的印刷文字,笺头,信头
letter of credit (4A) 信用证,常简写为 L/C 或 L.C,有时称作"banker's commercial letter of credit"(银行商业信用证),"banker's credit"(银行信用证),"commercial credit"(商业信用证)或直接称作"credit"(信用证)
licence (1A) *n.* 许可证,执照,许可,特许(synonym) permit
vt. 特许,许可
light rail train (6B) 轻轨列车
light rail transit (LRT) (6B) 轻轨运输
light rail transport (6B) 轻轨运输
linkage (1A) *n.* 1. 连接,结合,联系
2. 联动装置
3. 连锁
living standard (1A) 生活水平
long-distance communications (8B) 远距离通信
look towards (3B) *v.* 面朝,期待
machine tool (1B) 机床,工具机
machining centre (1B) 加工中心

maglev (magnetic levitation) (6B) *n.* 磁力悬浮
adj. 磁悬浮的

magnetic cushion (6B) 磁垫

magnetic field (4B) 磁场

magnetic flux (4B) 磁通量

mainframe (3B) *n.* [计算机]主机,大型机

make payment (7A) 付款

management contract (1A) 管理合同

manipulate (3B) *vt.* (熟练地)操作、运用,巧妙地处理

master (8B) *n.* 主导装置,主机

materials requirement planning (MRP) technique (3B) 材料需求计划(MRP)技术

mechanical engineer (3B) 机械工程师

mechanical load (4B) 机械载荷

mechanical power (4B) 机械功率

medium-sized (1A) *adj.* 中型的,普通型的

Messrs. (8A) *n.* 〈法〉主要用作 Mr. 的复数,尤用于公司的名称

methodology (5B) *n.* 一套方法
方法学,方法论

metropolitan (6B) *adj.* 1. 大都会的,大城市的
2. 中心地区的,正宗的

micron (3B) *n.* 微米

microprocessor (7B) *n.* 微处理器,微处理机(程序)

mileage (7B) *n.* 里数,里程

milling cutter (1B) 铣刀

milling machine (1B) 铣床

mobile (1A) *adj.* 1. 可迅速转动的,易于移动的,非固定的,可移动的
2. 车载的,易于变换社会阶层(或工作、住处)的,流动的

mode of payment (3A) 付款方式

mode of transport (6A) 运输方式

modified style (8A) (文中指)混合式

modulate (8B) *vt.* 调节,调制

monolithic (2B)	*n.* 单片电路,单块集成电路
motherboard (2B)	*n.* 底板,母板
motion (4B)	*n.* 运动,动作
motor (4B)	*n.* 发动机,电动机
motor action (4B)	电动机作用
motorbike (6A)	*n.* 摩托车
mover (4B)	*n.* 发动机,原动力
multi-car train (6B)	有多节车厢的列车
multidrop (8B)	*n.* 多站(网络),多点(网络),多分支
multi-layer circuit board (7B)	多层电路板
multinational (1A)	*adj.* 多国的,跨国的,涉及多国的 (synonym) transnational (similar) international *n.* 多国籍的公司,跨国公司
multinational enterprise (MNE) (1A)	跨国(多国)公司
multiplexing (7B)	*n.* 多路复用(转接,传输)(技术,方法),多路(化)
multiview (3B)	*n.* 多视图,多视角
municipal (6B)	*adj.* 市政的,地方政府的
national border (1A)	国界
national boundary (3A)	国界
national content (7A)	国家含量
NC cutter-path programming (3B)	数控(NC)刀具路径编程
necessary condition (5B)	必要条件
negligence (3A)	*n.* 疏忽
negotiate (4A)	*vt.* 议付,让渡(支票、债券等)
negotiating bank (4A)	议付银行,押汇银行
net weight (7A)	净重
nominate (4A)	*vt.* 提名,推荐,任命,命名
nondiscrimination (6A)	*n.* 不歧视,无差别待遇
non-draft credit (4A)	无汇票信用证
non-trade sector (1A)	非贸易部门
notify party (7A)	到货受通知人,受通知人
numerical (1B)	*adj.* 数字的,用数表示的
Numerical Control (NC) (1B)	数字控制(简称数控)

object-orientation (5B) 面向对象,物件导向
object-oriented methodology (5B) 面向对象的方法学/方法论
obligation (2A) *n.* 义务,职责,债务
obsequious (8A) *adj.* 1. 奉承拍马的,卑躬屈膝的
2. 谄媚的
offer (2A) *n.* 发盘,出价
vt. 提供,出价
vi. (机会、时机等)出现,献祭,提议
offeree (2A) *n.* 收到发盘的人,收盘人,被报价人
on demand (3A) 1. 在要求时,一经请求
2. 在要求支付时
ongoing (1A) *adj.* 继续进行的,不断前进(发展)中的
on the part of (2A) 在……方面,就……而言,由……所表现出的,由……所作出的
open account (3A) 记账,未结清的账目,往来账户
opener (4A) *n.* 开证人,开启的人,开始者
opening bank (4A) 开证行,也叫 issuing bank 或 establishing bank
orientation (5B) *n.* 方向,目标,熟悉情况,适应
original source information (8B) 信息源
originate (7A) *vi.* 原产,起源,来自,产生(from/in/with)
oscilloscope (2B) *n.* 示波镜,示波器
outlying (6B) *adj.* 1. 偏僻的,边远的
2. 在外的
overhead electrical wire (6B) 架空电线
overriding (8B) *adj.* 压倒一切的
overview (8B) *n.* 综述,概要
packing list (3A) 装箱单
parameter (7B) *n.* 参量,参数
partner (1A) *n.* 1. 伙伴,同伙,合伙人,股东
2. 同伴,搭档,舞伴
part programming software (3A) 零件编程软件
paying bank (4A) *n.* 付款行
pay to the order of ... (3A) 付给……指定的人
percentage (5A) *n.* 百分数,百分率,百分比
periodic payments (3A) 定期付款

phase (5B) *n.* 阶段,时期
physical goods (1A) 实物
pipeline (6A) *n.* 管道,管线
play the role of (7A) 担任……角色,起……作用
plug (2B) *vt.* 堵,塞,插上,插栓
n. 塞子,插头,插销
policy-maker (1A) 政策制定者
political and economic situations (3A) 政治经济形势
pool (5A) *n.* 统筹的资金,共同款项
port (2B) *n.* 端口,通信口
port of shipment (7A) 装运港,装船港,装货港,发货港
port of destination (7A) 目的港
postscript (8A) *n.* 1. (信末签名后的)附言,又及
2. (正文后的)补充说明
potential loss (5A) 潜在损失
powerhouse (2B) *n.* 发电站
premium (5A) *n.* 保险费
preserve (5A) *vt.* 保存,保护,保持
price terms (7A) 价格(支付)条件
primary (8B) *n.* 主机
prime (4A) *adj.* 最好的,第一流的,主要的
prime mover (4B) 原动机
principal (4A) *n.* 委托人
printer (8B) *n.* 打印机,印字机
priority (8B) *n.* 1. 优先权,重点
2. 优先考虑的事
3. 优先,在先,上席,上位
private carrier (6A) 自有承运人
productivity (2B) *n.* 生产率,生产力
proportion (1A) *n.* 1. 一物与他物在数量、大小等方面的关系,比例,倍数关系
2. 均衡,相称,协调
proposition (8A) *n.* 1. 提议,建议,提案
2. 论点,主张
proprietary (2B) *adj.* 所有的,私人拥有的

	n. 所有者,所有权
prosperity (1A)	*n.* 1. 幸运,顺利 2. 兴旺,繁荣 3. 成功
provide for (5A)	作准备,供养,规定
providing (that) (4A)	*conj.* 以……为条件,假如,倘若
provision (2B)	*n.* 供应,(一批)供应品,预备,防备,规定
proximate (5A)	*adj.* 最近的
proximate cause (5A)	近因
punch (1B)	*n.* 冲压机,冲床,打孔机 *vt.* 冲孔,打孔
purchase confirmation (2A)	购货确认书,采购确认书
purchase contract (2A)	购货合同,采购合同
purchase invoice (7A)	采购发票,购货发票
put ... into execution (5B)	实行,完成,执行
quality assurance (1B)	质量保证
quantifiable (3B)	*adj.* 可以计量的
quotation (2A)	*n.* 报价,报价单,行情表
rack up (6B)	1. 在比赛中获(胜),得(分) 2. 持续增加
rail (6B)	*n.* (交通)钢轨,横带
rail track (6B)	轨道,铁路线路
rail traffic (6B)	轨道交通
rail transport (6B)	轨道运输,铁路运输
railway bill (7A)	铁路运单
railway engineering (6B)	铁路工程(建设)
railway traffic (6B)	铁路交通
real-life problem (5B)	现实生活中的问题,实际生活中的问题
real-time (5B)	*adj.* (计算机)即时处理的,实时的
rear bumper sensor (7B)	后保险杠传感器
recommend (1B)	*vt.* 推荐,介绍,劝告,使受欢迎,托付,使……受欢迎,使……可取
recoup (5A)	*vt.* 追讨回,收回,取回
refuel (6A)	*vt.* & *vi.* (给)加油,(给)加燃料
regulation (7A)	*n.* 1. 规章制度,规章,规则,章程,法规

	2. 管理,控制
reimburse (4A)	*vt.* 偿还,归还,补偿,赔偿
release (3A)	*vt.* (法律)放弃,让与(权利、财产等),放松,松开
reluctant (3A)	*adj.* 不顾的,勉强的,难得到的,难处理的
remain-in-lane technology (7B)	保持车道技术
reproduce (2B)	*v.* 繁殖,再生,复制,使……在脑海中重现
reservation agency (1A)	预订(代理)机构
resolve (8B)	*vt.* 解决,解答
restore (5A)	*vt.* 恢复,使回复
reverse end for end (6B)	调头
revocable credit and irrevocable credit (4A)	可撤销信用证和不可撤销信用证
revoke (4A)	*vt.* 撤销,取消,废除
revolving credit (4A)	循环信用证
ring network (8B)	环形网络
robotics (3B)	*n.* 机器人技术
rotate (4B)	*v.* (使)旋转
rotor (4B)	*n.* [机]转子,回转轴,转动体
rotor shaft (4B)	转轴
rumble (6B)	*vi.* 发出隆隆声,发出辘辘声
	vt. 轰鸣着缓慢行进
Safety Concept Car (SCC) (7B)	安全概念车
sale promotion (3A)	推销,推销术
sales confirmation (2A)	售货确认书,销售确认书
sales contract (2A)	售货合同,销售合同
sales invoice (7A)	销售发票
scale (3B)	*n.* 数值范围,刻度,衡量,比例
scrap (1B)	*n.* 1. 废料,残余物,废料
	2. 小片,剪下来的图片,文章
scrap rate (1B)	废品率
secondary (8B)	*n.* 附属机
sector (1A)	*n.* 1. (尤指一国经济的)部门,领域
	2. (尤指军事管制的)防御地区,防卫区域
security (4A)	*n.* 担保,保证,安全,保障
selector switch (2B)	选择开关

set forth	陈述，阐明
setup (1B)	*n.* 安装，机构，设置，装备，组织，计划，调整
shaft (4B)	*n.* 轴，车杠
ship (4A)	*vt.* 装运，装上船，载运
shipment (2A)	*n.* 装船，出货
shipper (6A)	*n.* 承运商，托运人，发货人
shipping advice (7A)	装船通知，装运通知，发货通知
shipping documents (3A)	运输单据，船(货)运单据
shipping marks (7A)	唛头
showcase (7B)	*vt.* 使展现，展示
sight credit and usance credit (4A)	即期信用证和远期信用证
signal conditioner (7B)	信号调节器
significantly (1B)	*adv.* 意味深长地，值得注目地
simultaneously (8B)	*adv.* 同时地，同步地
skilled (1B)	*adj.* 熟练的
slave (8B)	*n.* 从动装置，附属装置
slot (2B)	*n.* 狭槽，缝 *vt.* 开槽于
social division of labor (6A)	社会分工
software engineering (5B)	软件工程
software life cycle (5B)	软件生命周期
sophisticated (7B)	*adj.* 1. 老练的，老于世故的，见多识广的，见过世面的 2. 精密的，尖端的，复杂巧妙的，先进的 3. 高雅的，有教养的 4. 水平高的，在行的 5. 符合老于世故者口味的，为世故者所喜欢的 6. 欺骗性的，迷惑人的 7. 富有经验的，精通的 8. 深刻奥妙的，精致的 9. 掺假的，掺杂的，篡改过的 10. 骗人的，引起误解的
specification (2A)	*n.* 详述，规格，说明书，规范
specification list (7A)	规格单

specify (5A) *vt.* 指定,详细说明,列入清单
spot check (1B) 抽样调查,抽查
stability-control system (7B) 稳定性控制系统
standardize (2B) *vt.* 使符合标准,使标准化
star network (8B) 星形网络
stationary (4B) *adj.* 不动的,静止的,固定的
stator (4B) *n.* 定子,固定片
steam-driven shaft (6B) 由蒸汽动力驱动的轴
steel rail (6B) 钢轨
stick out (4B) 伸出,突出
stipulate (4A) *v.* 规定,保证
stipulate (7A) *vt.* (尤指在协议或建议中)规定,约定,讲明(条件等)
vi. 规定,明确要求
stipulation (7A) *n.* 契约,规定,条文
storage battery (6B) 蓄电池
straightforward (8A) *adj.* 坦白的,明白的,直言无讳的
streetcar (6B) *n.* (美国特有用语)(市内)有轨电车[英语也叫 trolley car,(英国特有英语)tram]
stress (3B) *n.* 应力,受力状态,压力
submit (4A) *v.* (使)服从,(使)顺从
vt. 提交,递交
subrogation (5A) *n.* [法律]代位,代位追偿,代位偿清,取代
subsequent (5B) *adj.* 随后的,继……之后的
subsidize (6B) *vt.* 1. 给……津贴或补贴
2. 资助或补助……
substantial (8A) *adj.* 大量的,可观的
substantial order (8A) 可观的订单
subway train (6B) 地铁列车
successive approximation converter (2B) 逐次逼近转换器
successive approximation register (SAR) method (2B) 逐次逼近方法
sue (2A) *vt.* 起诉,控告,向……请求,请愿起诉
vi. 起诉,提出诉讼,提出请求
sufficient (3A) *adj.* 充分的,足够的

sufficient condition (5B)	充分条件
supercilious (8A)	*adj.* 高傲的,傲慢的
supervision (1B)	*n.* 监督,管理
system architecture (5B)	系统/体系结构
system builder (5B)	系统构造程序,系统构造师
tact (8A)	*n.* 圆通,机敏,老练,得体
take delivery (7A)	收货,(货物)受领,提(取)货(物)
take ... in hand (5A)	承担,处理,尝试,接管
take on (1A)	1. 承担 2. 呈现,穿上 3. 雇用
take shortcuts (6B)	走捷径,抄近路
talker-listener (2B)	*n.* 收发器
tariff (8B)	*n.* 费用,关税
telecommunication (8B)	*n.* 电信
tenor draft (3A)	远期汇票,期票
term (2A)	*n.* 条款,条件,期限,期间
term credit (4A)	远期信用证(英文也称为 usance credit, time credit)
term draft (3A)	远期汇票,期票
terminal (6A)	*n.* 航空站,航空终点站,(火车、公共汽车或船的)终点站
term of delivery (7A)	交货条件
terms of payment (2A)	支付条件,付款条件
test station (2B)	测试站
testing and inspection equipment (1B)	测试和校验设备
the parties concerned (3A)	有关当事人,有关各方
the principle of magnetism attraction and repulsion (6B)	磁引力和排斥力原理
thru (1B)	*adv. pre.* (美国用语)(口语)=through,经过,穿过,通过
thru-axis curve (1B)	过轴曲线
tie into (8B)	连接到……里去
tie together (1A)	(使)捆在一起,(使)联系在一起
time of shipment (2A)	装船期,装运期,交货时间,交运时间

title (3A)	*n.* 1. (尤指土地或财产的)所有权,所有权凭证,房地契 2. 权利,权益
token (6B)	*n.* 代币
top and bottom margins (8A)	上下边距
top-down (5B)	*adj.* 组织管理严密的,自上而下的
torque (4B)	*n.* 扭(力)矩,转(力)矩
torque requirement (4B)	转矩要求
total amount (7A)	总额,总计,总数
traction-control system (7B)	牵引控制系统
trade barrier (3A)	贸易壁垒
trade fair (2A)	商品交易会
trading bloc (7A)	贸易集团,贸易联盟
trading partner (7A)	贸易伙伴
traffic demand (6B)	交通需求
transaction (1A)	*n.* 交易,事务,事项
transfer (5A)	*v.* 转移
transferable credit and non-transferable credit (4A)	可转让信用证和不可转让信用证
transfer risk (5A)	转移风险
transmission path (8B)	传输路径,传递路径
transportation deregulation (6A)	对运输管制的放松
transportation industry (6A)	运输业
transportation system (6A)	运输系统
tributary (8B)	*adj.* & *n.* 辅助(的),支流(的)
troubleshoot (也作 trouble-shoot) (2B)	*vt.* 做检修技工,检修
trucking terminal (6A)	卡车运输终点站
trunk call (2A)	长途电话
turning centre (1B)	车削中心
two-dimensional (2D) and three-dimensional (3D) modeling (3B)	二维和三维建模
ultra- (2B)	表示“极端,过度”之意
ultra-fast comparators (2B)	超快比较器
umbilical (2B)	*adj.* 脐带的,母系的
umbilical cord (2B)	电缆,火箭操纵缆,脐带

unbinding (2A) (2B) [法律上]无拘束作用的,无约束力的
unconditional (3A) *adj.* 无条件的,绝对的,无限制的
under control (3A) 被控制住,处于控制之下
underground (6B) *n.* (英国英语)地铁(有时也称 tube;美国英语称 subway; metro;若写成 Metro 则特指巴黎地铁)
adj. 1. 地下的,地铁的
underground railway system (6B) 地下铁路系统,地铁系统
underlie (5B) *vt.* 位于或存在于(某物)之下,构成……的基础(或起因),引起
underwriter (5A) *n.* 保险业者,承诺支付者,保险商
unit price (7A) 单价
unprecedented (1A) *adj.* 前所未有的,空前的,没有先例的
unreliability (3A) *n.* 不可靠
untrustworthy (3A) *adj.* 不能信赖的,靠不住的
usance draft (3A) 远期汇票,期票
utilize (2B) *vt.* 利用
utmost good faith (5A) 最大诚信
validate (5B) *vt.* 证实,确证
使生效,使有法律效力
validity period (2A) (=term of validity)有效期
valued policy (5A) 有价保险单,有价保单
VCR (1A) *abbr.* (=Video Cassette Recorder)盒式录像机,卡式录影机
veterinary certificate (7A) 兽医证明书
video (7B) *n.* 视频,视像,录像,录影
video frequency (2B) 视频(率)
virtual (2B) *adj.* 虚的,实质的,[物]有效的,事实上的
visual inspection (3B) 目测检查
voice band communication channel (8B) 声(音)频通信频道
voice control (7B) 语音控制,音频调制,声控
voice frequency (8B) 声频,音频
voidable (5A) *adj.* 可使无效的,得撤销的
voltage (2B) *n.* [电工]电压,伏特数
voluntarily (2A) *adv.* 主动地,自愿地

warehouse (6A) *n.* 仓库,货栈
waterway (6A) *n.* 水路,航道
waveform (8B) *n.* (信号)波形
weight list, weight memo, weight note (7A) 重量单
wheeled vehicles (6B) 轮式车辆
white box testing (5B) 白箱测试
wholly owned subsidiary (1A) 全资子公司
wiring (7B) *n.* 配线,布线,(建筑物供电的)线路系统
wire-frame (2A) *n.* 线框
with the advent of (3B) 随着……的出现、到来
workbench (2B) *n.* 工作台,手工台
work flow (3B) 工作流程
workstation (3B) *n.* 工作站

Proper Names

Alexander Fraser Tytler (1B) 亚历山大·弗雷泽·泰特勒
Andrew Hallidie (6B) 安德鲁·哈利迪
Charles Pearson (6B) 查尔斯·皮尔逊
Eugene A. Nida (1B) 尤金·奈达
Hewlett-Packard (2B) 美国惠普公司(缩写为 HP,世界著名的电器生产厂家)
John Parsons (1B) 约翰·帕森斯(男子姓名)
Liu Zhongde (1B) 刘重德(1914～2008,中国翻译家,提出了"信、达、切"三大翻译原则,即信于内容、达如其分、切合风格)
Michigan (1B) 密歇根州(美国州名)
Platt (2B) 普拉特(姓氏)
Richards (2B) 理查兹(姓氏)
San Francisco (6B) 圣弗朗西斯科(即旧金山,美国西部港市)
the Thames Tunnel (6B) 泰晤士河隧道
Thomas Davenport (6B) 托马斯·达文波特
Traverse City (1B) 特拉弗斯城(在美国密歇根州)
Volvo (7B) 富豪牌汽车,沃尔沃牌汽车(瑞典)
Yan Fu (1B) 严复

Appendix III
附 录 3

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