



面向21世纪

高职高专系列教材

电子技术 专业英语

◎孙 萍 主编

◎张福强 审



机械工业出版社
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本教材系由高职高专教育电子技术专业教材编委会组织编写并推荐出版。

本教材的参考学时数为 80 学时, 根据高职高专学生的培养目标和专业英语教学的需要, 精心选编了包括电路基础、电子线路、计算机及微电子方面相关的英语词汇和专业文章, 并系统地介绍了专业英语常用的语法知识和翻译技巧。教材内容由浅入深、循序渐进, 每课都附有一定数量的练习和相应的阅读材料, 以巩固所学的知识。

本教材适用于初中毕业五年制和高中毕业二年制高职高专电子技术专业的学生阅读。

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出版说明

积极发展高职高专教育,完善职业教育体系,是我国职业教育改革和发展的一项重要任务。为了深化职业教育的改革,推进高职高专教育的发展,培养 21 世纪与我国现代化建设要求相适应的,并在生产、管理、服务第一线从事技术应用、经营管理、高新技术设备运作的高级职业技术应用型人才,尽快组织一批适应高职高专教学特色的教材,已成为各高职高专院校的迫切要求。为此,机械工业出版社与高职高专计算机专业、电子技术专业和机电专业教材编委会联合组织了全国 40 多所院校的骨干教师,共同研究开发了一批计算机专业、电子技术专业和机电专业的高职高专系列教材。

各编委会确立了“根据高职高专学生的培养目标,强化实践能力和创新意识的培养,反映现代职业教育思想、教育方法和教育手段,造就技术实用型人才为立足点”的编写原则。力求使教材体现“定位准确、注重能力、内容创新、结构合理和叙述通俗”的编写特色。

本套系列教材是由高职高专计算机专业、电子技术专业、机电专业教材编委会分别会同各院校第一线专业教师针对高职高专计算机、电子技术和机电各专业的教学现状和教材存在的问题开展研讨,尤其针对目前高职高专教学改革的新情况,分别拟定各专业的课程设置计划和教材选题计划。在教材的编制中,将教学改革力度比较大、内容新颖、有创新精神、比较适合教学、需要修编的教材以及院校急需、适合社会经济发展的新选题优先列入选题规划。在广泛征集意见及充分讨论的基础上,由各编委会确定每个选题的编写大纲和编审人员,实行主编负责制,编委会通过责任编委和主审对教材进行质量监控。

担任本套教材编写的老师们都是来自各高职高专院校教育第一线的教师,他们以高度的责任感和使命感,经过近一年的努力,终于将本套教材呈现在广大读者面前。由于高职高专教育还处于起步阶段,加上我们的水平和经验有限,在教材的选题和编审中可能出现这样那样的问题,希望使用这套教材的教师和学生提出宝贵的意见和建议,以利我们今后不断改进,为我国的高职高专教育事业的繁荣而共同努力。

高职高专系列教材编委会
机械工业出版社

前 言

随着当今科学技术的发展,尤其是电子、微电子工业的发展,大多数工作岗位的技术含量越来越高,对操作人员的素质和技能要求也更高。高职教育就是旨在培养具有高等职业技能的应用型人才。专业英语的教学是指导学生阅读有关专业的专刊和文选,培养学生阅读英语科技资料的能力,使其能以英语为工具,获取有关专业所需的信息,从而能更好地适应社会的需求。

本教材是为高职高专电子技术专业学生在完成了三年普通英语的学习,在具有一定的专业知识的基础上,进一步巩固和提高英语水平,特别是提高阅读科技及本专业英文资料的能力而编写的。全书共分三个部分,第一部分是电路基础和电子线路相关的专业英语;第二部分是当今广泛使用的计算机的相关英语;第三部分介绍发展迅速的微电子技术的专业英语。文章选自各类书刊、杂志、科学文献,内容力求科学性、知识性和语言的规范化,并由浅入深,循序渐进。每篇课文后均配有一定数量的理解和实践性的练习,并附有阅读材料,以扩大学生的阅读面,训练快速阅读的能力。在语法方面,除帮助学生概括复习普通英语中的语法知识外,也介绍了科技英语的语法特点和翻译技巧,使学生能更准确地阅读和翻译科技英语,翻译更符合汉语习惯。

本教材由孙萍老师主编,由她编写了第1~5、16~20课,贾小伟老师编写第11~15课,尹丽丽老师编写第6~10课,全书由张福强老师担任主审。

在此次编写过程中,得到了邓红、陆建恩、袁其睦、周元兴几位老师的大力支持和帮助,在此深表感谢!

由于时间仓促和编者水平有限,书中可能有不妥之处,敬请读者批评指正。

编 者

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LESSON 1

The Importance of English

There are thousands of languages in the world. English is the most useful one.

The importance of English lies in three aspects. First, English is spoken as a native language by nearly three hundred million people: in the United Kingdom, the United States, Australia, New Zealand, Canada and other countries. Second, English is spoken as a second language in official activity, business, education, information in a great many countries, such as India, Pakistan, Singapore and the Philippines. Third, along with Chinese, French, Spanish and Russian and so on, English is one of the few “working” languages of the United Nations and is more frequently used than the others. ⁽¹⁾

Overall, English is one of the world’s widely used languages. For example, English has become the language of international trade and communication. Most pilots in planes travelling from one country to another use it to talk with airports. ⁽²⁾ All ships sailing on the oceans call for help by radio in it. It is said that 60 percent of the world’s radio broadcasts and 70 percent of the world’s mail use English. At international sports meets, at meetings of scientists from different countries and at talks of writers and artists from the corners of the earth, English is the language most widely understood. ⁽³⁾ English has in fact become the language of international cooperation in science and technology. The most advanced results in space, nuclear physics and computer research are published in it. A scientist who speaks and writes English is in closer touch with the scientist in other countries than who does not. ⁽⁴⁾

So we can say English is the most useful language in the world and to learn English is very important for us.

New Words and Expressions:

1. **aspect** ['æspekt] n. 方面
2. **New Zealand** [nju:'zi:lənd] n. 新西兰
3. **Canada** ['kænədə] n. 加拿大
4. **activity** [æk'tiviti] n. 活动
5. **education** [edju:'keiʃən] n. 教育
6. **Pakistan** [pɑ:kis'tɑ:n] n. 巴基斯坦
7. **Singapore** [singə'pɔ:] n. 新加坡
8. **Philippines** ['filipi:nz] n. 菲律宾

9. **frequently** ['fri:kwəntli] **adv.** 频繁地, 经常地
10. **the United Kingdom** 联合王国
11. **the United Nations** 联合国
12. **international** ['intə'næʃənl] **a.** 国际的
13. **communication** [kə'mju:ni'keiʃən] **n.** 通信
14. **percent** [pə'sent] **n.** 百分之
15. **mail** [meil] **n.** 邮件
16. **artist** ['ɑ:tist] **n.** 艺术家
17. **corner** ['kɔ:nə] **n.** 角落
18. **broadcast** ['brɔ:d kɑ:st] **n.** 广播
19. **cooperation** [kəʊpə'reiʃən] **n.** 合作
20. **technology** [tek'nɒlədʒi] **n.** 技术
21. **advanced** [əd'vɑ:nst] **a.** 先进的, 高级的
22. **nuclear** ['nju:kliə] **a.** 原子核的, 核的
23. **lie in** 存在于
24. **along with** 和……一起
25. **to call for help** 呼救
26. **in fact** 事实上

Notes to the Text:

(1) Third, along with Chinese, French, Spanish...is more frequently used than the others.

第三, 与汉语、法语、西班牙语等一样, 英语是联合国少数几种工作语言之一, 而且用得更为频繁。

(2) Most pilots in planes travelling from one country to another use it to talk with airports.

大多数从一个国家飞往另一个国家的飞行员用英语和地面机场进行交谈。

“travelling from one country to another”作为“planes”的定语, 相当于“that is travelling ...”。

(3) At international sports meets, ...English is the language most widely understood.

在国际性的体育运动会上, 在来自不同国家的科学家的聚会上, 在来自世界各地的作家和艺术家的演讲会上, 英语是最能被广泛接受的语言。

(4) A scientist who speaks and writes English is in closer touch with the scientist in other countries than who does not.

与那些不能说写英语的科学家相比, 一个能说能写英语的科学家能和其他国家的科学家保持更紧密的接触。

Grammar

名词和代词的用法

一、名词

1. 名词的分类

名词的分类可以用下表来表示:

名 词	专有名词: 如: the United States, Jiangsu等	
	普通名词	个体名词: worker, pen, gate等
		集体名词: family, party, clothing等
		物质名词: air, water, tea, beer等
		抽象名词: anger, happiness, music, difficulty等
		可数名词
		不可数名词

2. 名词的数

(1) 可数名词有单复数两种形式, 常规的单数变复数的形式为:

情 况	加 法	例 词
般	加 s	Girl—girls, book—books
以 s, x, ch, sh 收尾	加 es	classes, boxes, inches, brushes
以辅音字母加 y 收尾的词	变 y 为 i 再加 es	Country—countries, city—cities

(2) 有少数名词有不规则的复数形式。如:

man—men	woman—women	mouse—mice	tooth—teeth
foot—feet	child—children	goose—geese	

(3) 个别词单复数相同。如:

Chinese, Japanese, aircraft, sheep, deer, means, series, species, swine 等

(4) 一般地说, 物质名词和抽象名词是不可数的, 因此没有复数形式。如:

advice 忠告	baggage 行李	bread 面包	clothing 衣物
damage 损失	grass 草	equipment 设备	food 食物
furniture 家具	knowledge 知识	progress 进步	technology 技术
traffic 交通	work 工作	information 信息	hope 希望

但有些这类名词有时却以复数形式出现, 表示若干类或是表示数量之多。例如:

She told him of all her hopes and fears. 她和他谈了种种希望和疑虑。

3. 名词的作用

- (1) Complacence is the enemy of study. 学习的敌人是自我满足。(主语)
- (2) The man over there is a friend of mine. 那边的人是我的一个朋友。(表语)
- (3) A friend in need is a friend indeed. 患难之交的朋友才是真正的朋友。(同位语)
- (4) The field concept is more valuable in studying non-static phenomena.
电场的概念对于研究非静电现象更有价值。(定语)

作定语时有几个特殊情况:

- 1) 用复数名词作定语, 如: communications satellite (通信卫星)。
- 2) 名词短语作前置定语, 如: Semiconductor on Insulator Technology (生长在绝缘体上的半导体技术)。
- 3) 名词短语作后置定语, 如:

These factories produce integrated circuits the size of a finger-nail.
这些工厂生产只有手指甲那么大小的集成电路。

- (5) This signal is cable connected to the receiver.
这个信号通过电缆传送到接收机。(状语)

二、代词

1. 代词的分类

代词可以分成以下九类:

(1) 人称代词:

数 \ 格	单 数			复 数		
	一	二		一	二	
主 格	I	you	he she it	we	you	they
宾 格	me	you	him her it	us	you	them

(2) 物主代词:

词 义 \ 类型	我的	你的	他(她, 它)的	我们的	你们的	他们的
形容词型的物主代词	my	your	his her its	our	your	their
名词型的物主代词	mine	yours	his hers its	ours	yours	theirs

(3) 自身代词:

单数	myself	yourself	himself	Herself	itself
复数	ourselves	yourselves	themselves		

(4) 相互代词: **one another** 与 **each other** 由于表示相互关系, 称为相互代词。

例: Did you know each other at that time? 你们那时认识吗?

(5) 指示代词: **this**、**that**、**these**、**those** 表示指代。

(6) 疑问代词: **who**、**whom**、**whose**、**what** 和 **which** 都是用来构成特殊疑问句的。

(7) 关系代词: **who**、**whom**、**whose**、**that**、**which** 是用来引导定语从句的, 它一面代表定语从句所修饰的那个名词(或代词), 一面又在从句中担任一个成分。如:

He is no longer the man that he was.

他已经不是过去的他了。(that 指 the man, 并作为从句中的表语。)

(8) 连接代词: 疑问代词都可以用作连接代词, 用来引导主语从句, 宾语从句和表语从句。

如: Do you know whose pen it is?

(9) 不定代词: **all**、**each**、**every**、**both**、**either**、**neither**、**one**、**none**、**little**、**few**、**many**、**other**、**another**、**some**、**any**、**no**, 以及由 **some**、**any**、**no** 和 **every** 构成的合成代词都可以作为不定代词。

2. 代词的用法

代词的句法功能与名词基本相同, 主要作以下成份:

(1) One of the advantages of transistors over vacuum tubes is their small size.

晶体管与真空管相比的优点之一是它们的体积小。(形容词型物主代词作定语)

(2) They are preparing for the examination. (主语)

(3) This is your dictionary and that is mine. (表语)

(4) You yourself should be responsible for what you have done. (同位语)

(5) 代词 **one** 和 **that** 用法上的主要区别:

one 可代替“一个人”, 在科技英语中可译为“我们, 大家”, 但只表示单数。

that 既可代替可数名词又可代替不可数名词, 但它绝不能带任何前置修饰语, 其后面一定要带后置修饰。例:

The conductivity of silver is higher than that of copper.

Exercises

I. 选择填空:

1. The fine furniture early Shaker communities produced _____ as collector's items.

A. are now prized

B. is being prized today

C. are being prized today

D. is now prized

2. Sickness takes _____ out of life.

A. all the fun B. all the funs C. a lot of funs D. funs all

3. "Whose pen is this?" "It's_____."

A. the pen of my friend B. my friend's pen
C. my friend pen D. a pen of my friend's

4. The_____were all invited to the school.

A. boys parents B. boy parents C. boy's parents D. Boys'parents

5. After climbing for two hours we were glad to take_____rest.

A. a few minute's B. a few minutes'
C. few minute's D. few minutes'

6. I was in a position similar to the_____you're in now.

A. one B. that C. anyone D. some

7. The father and his son are_____thinking of different things when they talk to_____.

A. both...one other B. every...one another
C. each...each other D. all...each another

8. The teacher spoke with such an accent that_____of the students understood him.

A. nobody B. no one C. every D. none

9. I have classes_____day, Monday, Wednesdays and Fridays.

A. each other B. every other C. this and the other D. all other

10. I prefer red roses to white_____.

A. one B. some C. ones D. those

II. 用 any、anyone、anything、some、somebody、something、nothing、nobody 和适当的反身代词填空。

1. I haven't read_____of the last four chapters yet, so I know_____about them, I'm afraid.

2. Is there_____moving about downstairs? I heard_____falling.

3. Has smoking_____to do with cancer?_____people believe smoking has to do with cancer at all; others feel that it might have_____to do with it, but they don't know what.

4. She like the house_____but not the neighborhood.

5. One should always try to adapt_____to whatever situation be may find_____in.

III. 阅读材料:

What is Science?

Science is a kind of knowledge, which is a very useful tool in solving the technical

problems of industry, agriculture and so on. The word science comes to us from a Latin word, “scire”, which means “to know”. Loosely, then, science is simply what we know; the total of all human knowledge. But the definition of science as all knowledge would not be a workable(可使用的) one, for it is obvious that there are different types of knowledge. The kinds differ according to how the knowledge was obtained, and also according to what frame(范围) of experience it fits.

Science is also called natural science to distinguish it from other branches of learning. Science is, indeed, concerned with nature, that is, with knowledge of the characteristics and operations of any and all natural things and happenings. Science is much more than knowledge of high-speed subatomic particles(高速亚原子粒子), despite the recent emphasis on that branch of physics. Science embraces(包括) all of nature, and expresses our best ideas of how natural phenomena are related to each other and are to be woven(组成, 构成) into what is called the universe.

LESSON 2

What is Electricity?

Quite a few years ago, scientists had very vague ideas about electricity. Many of them thought of it as a sort of “fluid” that flowed through wires as water flows through pipes, but they could not understand what made it flow. Many of them felt that electricity was made up of tiny particles of some kind, but trying to separate electricity into individual particles baffled them.

Then, the great American scientist Milikan, in 1909, astounded the scientific world by actually weighing a single particle of electricity and calculating its electric charge. This was probably one of the most delicate weighing jobs ever done by man, for a single electric particle weighs only about half of a millionth of a millionth of a millionth of a millionth of a millionth of a pound. ⁽¹⁾ To make up a pound it would take more of those particles than there are drops of water in the Atlantic Ocean. ⁽²⁾

They are no strangers to us, these electric particles, for we know them as electrons. When large numbers of electrons break away from their atoms and move through a wire, we describe this action by saying that electricity is “flowing” through the wire. Yes, the electrical “fluid” that early scientists talked about is nothing more than electrons flowing along a wire!

But how can individual electrons be made to break away from atoms? How can free electrons be made to move along a wire?

The answer to the first question lies in the structure of the atoms themselves. Some atoms are so constructed that they lose electrons easily. An atom of copper, for example, normally has 29 electrons, arranged in four different orbits about its nucleus. The inside orbit has 2 electrons. The next larger orbit has 8. The third orbit is packed with 18 electrons. And the outside has only one electron. It is this outside electron that the copper atom is continually losing, for it is not very closely tied to the atom. ⁽³⁾ It wanders off, is replaced by another free-roving electron, and then this second electron also wanders away.

Consequently, in a copper wire free electrons are floating around in all directions among the copper atoms. Thus, even though the copper wire looks quite motionless to your ordinary eyes, there is a great deal of activity going on inside it.

If the wire were carrying electricity to an electric light or to some other electrical device, the electrons would not be moving around at random. Instead, many of them would be rushing in the same direction—from one end of the wire to the other.

This brings us to the second question. How can free electrons be made to move along a wire? Well, men have found several ways to do that. One way is chemical. Volta's voltaic pile, or battery, is a chemical device that makes electricity (or electrons) flow in the wires. Another way is magnetic. Faraday and Henry discovered how magnets could be used to make electricity flow in a wire.

New Words and Expressions:

1. **electricity** [ilek'trisiti] n. 电, 电学
2. **vague** [veig] adj. 模糊的, 不明确的
3. **sort** [sɔ:t] n. 种类; v. 分类
4. **fluid** [flu:ɪd] adj. 流体的
5. **pipe** [paip] n. 管子, 导管, 输送管
6. **individual** [indi'vidʒəl] adj. 个人的, 单独的,
7. **baffle** [bæfl] v. 使挫折, 阻碍
8. **astound** [əs'taund] vt. 使震惊
9. **probably** ['prɒbəbli] adv. 很可能, 大概, 也许
10. **delicate** ['delikit] adj. 精致的, 棘手的
11. **millionth** ['miljəne] n. 百万分之一
12. **construct** [kən'strakt] v. 建造, 构筑
13. **arrange** [ə'reɪndʒ] v. 安排, 整理, 分类, 排列
14. **wander** ['wɒndə] v. 漫游, 徘徊
15. **rove** [rouv] v. 漫游
16. **consequently** ['kɒnsikwəntli] adv. 因而, 所以
17. **float** [flaʊt] v. 漂浮, 浮动
18. **motionless** ['mouʃənli] adj. 不动的, 静止的
19. **ordinary** ['ɔ:dnəri] adj. 普通的, 平常的, 平凡的
20. **deal** [di:l] v. 交易; n. 待遇
21. **random** ['rændəm] n. 偶然的行动; adj. 随便的
22. **pile** [paɪl] v. 堆, 堆积
23. **magnetic** [mæg'netik] adj. 磁的, 有磁性的

Notes to the Text:

(1) This was probably one electric weighing jobs ever done by man, ...of a pound.

这可能是人类所做过的最精确的称量工作, 因为单个电微粒的质量只有 10^{-30} 磅的一半。

“Millionth”的意思是“百万分之一”, 相当于 10^{-6} 。

(2) To make up a pound it would take more ...in the Atlantic Ocean.