高级英语教程

于振中,李佩主编

中国科学技术大学出版社

GETTING THROUGH GRADUATE SCHOOL ENGLISH

ADVANCED ENGLISH TEXT

(With Answer Key)

YU ZHENZHONG, LI PEI Graduate School, University of Science and Technology of China

《研究生英语系列教材》之一

高级英语教程

ҭ (附答案)

中激

₹**#**中 李 佩 主编

China SciTech University Press 中国科学技术大学出版社 1 9 8 6

内容简介

《高级英语教程》是《研究生英语系列教材》中的一本。该系列教材是一套适合我国研究生、或具有中等以上英语水平的人进一步进修提高使用的高级英语配套教材。

本教程是中国科技大学研究生院中外教师多年来教学 研究工作的结晶。本书经过八年来五千多名研究生使用,不断修改、补充、增定而成。主要特点是:课文选材新、题材广泛,以科学技术与社会为主要题材,内容有一定深度和难度且引人入胜;练习量大,有难度,形式多样,主要包括:阅读理解练习、词汇练习、综合填空练习、阅读技能练习、写作练习等等。本书还另配有练习答案,可供教师备课时参考。

本书可供各高等院校,各部、所的研究生院或研究生部作教材使用,亦可供研究生、出国人员英语进修、有志于报考研究生或具有中等以上英语水平的读者自学使用。

GETTING THROUGH GRADUATE SCHOOL ENGLISH

Advanced English Text With Answer Key

《研究生英语系列教材》之一

高级英语教程

(附答案)

于振中 李 佩 主编

中国科学**教术大**学出版社出版发行 安徽省合肥市金寨路 24号

中国研究院印刷厂印刷

印數:0001-15,000 字數:359,000

统一书号:9474·2

定价: 2.97 元 1.95元

序言

《高级英语教程》是《研究生英语系列教材》之一,是一本适合我国理工科研究生使用的高级英语教科书。它是中国科技大学研究生院(中国科学院研究生院)中外教师多年来教学研究工作的结晶。作为中国科学院京区各所研究生的主要教材,此书从1978年以来的八年中,曾经在大约5500名研究生中使用,并经过多次修改、补充,才成为现在的教材。

编写本教材的指导思想是在我国传统精读课本的基础上吸收国外一些先进的英语教学思想,力图编写出适合我国研究生使用的教材。本书的主要特点是:

一、课文材料比较新,题材比较广泛。

本教程共包括课文 14 篇,绝大部分教材均选自当代的报刊。科学、技术与社会是主要选择的题材。 因为这些文章的内容不囿于某一狭窄的专业领域,而引人兴趣,发人深思,对开拓理工科研究生思路,使自然科学、技术与社会科学联系有很大好处。 另一个原因是这些文章具有一定深度与难度,对提高研究生英语阅读的实际能力是极为重要的。本书的编者一向认为无论理、工、农、医或社会科学方面的研究生,如欲真正学好一门外语,必需跳出自己专业的狭小天地,广泛涉猎多种题材的读物,扩大自己的知识面及对背景材料的了解,从而最终达到外语的习得。

二、本书的练习有一定的数量又有一定的难度。

本教材既包括了我国传统精读教材的词汇练习,又包括了阅读技能的训练练习。 每 篇课文除附有注释,向读者提供文章及作者的背景材料外,还包括:

- 1. 阅读理解练习: 目的在于加深对文章及作者观点的理解。
- 2. 词汇练习: 形式多种多样。除了进一步巩固、深化教育部公布的大学英语教学大纲中规定的 5108 基础词汇外,重点为以 5000 以上的次常用词汇的练习为主,力图做到既与大学的英语教学大纲衔接,又起到巩固、加深、扩大词汇的作用。
 - 3. 综合填空练习: 目的在于提高实际运用语法及词汇的能力。
- 4. 阅读技能练习:包括抓住中心思想、掌握主要论点,摄取信息,略读扫描,思维联贯,猜词,预见等等。其目的在于熟练掌握阅读的策略和技能。
 - 5. 写作练习: 包括写提纲、摘要、大意等写作练习。
 - 三、本书另附练习答案(并正在编写较详尽的教师手册),仅供教师备课时参考。
- 四、本书是《研究生英语系列教材》的一本。该系列教材还包括《英语结构习题集》、《英语词汇习题集》、《研究生英语资格试题集》,每种教材均另附答案。以上各书将在今年内陆续出版。

本书由于编写时间比较短,更由于编者的水平有限,错误是难免的,欢迎广大读者及教师们批评指正。

本书编者特别感谢在科技大学研究生院任教多年的杜根博士。杜根博士不仅为本书推荐了优秀的课文,提供了背景材料,而且还对不少课的阅读理解练习进行了修改、润色。

曾在本校任教的美国教师范雅卿、周西蒙以及本院教师吴桂林等同志都参加了本书的部分工作。本书的编者对这些同志也致以谢意。

CONTENTS

Preface	
Lesson One	
Text: Basic Research and Graduate Education	
Comprehension Exercise	
Vocabulary Exercises	5
Cloze Test	
Reading Skills Practice: Finding Main Idea in a Passage	
Writing Exercise	
Lesson Two	
Text: The Japanese Challenge	
Comprehension Exercise	
Vocabulary Exercises	
Cloze Test	
Reading Skills Practice: Observing Unity	
Writing Exercise	
Lesson Three	
Text: Language of Science	
Comprehension Exercise	
Vocabulary Exercises	
Cloze Test	
Reading Skills Practice	
Writing Assignment	
Lesson Four	
Text: Scientific Knowledge and the Young Scientist	
Comprehension Exercise	
Vocabulary Exercises	
Cloze Test	
Reading Skills Practice: Guessing Vocabulary from Context	
Writing Exercise	
Lesson Five	
Text: Our Brain's Successor	
Comprehension Exercise	
Vocabulary Exercises	
Cloze Test	
Reading Skills Practice	
Topics for Writing and Discussion	
Lesson Six	
Text: The Task of Education	
Comprehension Exercise	
Vocabulary Exercises	6

Cloze Test	65
Reading Skills Practice: Guessing Vocabulary	65
Topics for Writing and Discussion	
Lesson Seven	
Text: Conditions for the Flourishing of Science	68
Comprehension Exercise	
Vocabulary Exercises	74
Cloze Test	
Reading Skills Practice: Drawing Logical Inferences	
Lesson Eight	81
Text: Scientific Activism	
Comprehension Exercise	85
Vocabulary Exercises	86
Cloze Test	
Reading Skills Practice: Skimming for the Main Idea	
Lesson Nine	
Text: Einstein and Research	92
Comprehension Exercise	
Vocabulary Exercises	
Cloze Test	100
Reading Skills Practice: Skimming for Specfic Information	
Lesson Ten	103
Text: The Using of Baby Fae	103
Comprehension Exercise	
Vocabulary Exercises	107
Cloze Test	110
Reading Skills Practice	111
Topics for Writing and Discussion	
Lesson Eleven	113
Text: The War Room at Bellevue	118
Comprehension Exercise	117
Vocabulary Exercises	118
Cloze Test	123
Reading Skills Practice: Restatements	124
Lesson Twelve	126
Text: Seas of Unreason	126
Comprehension Exercise	130
Vocabulary Exercises	132
Cloze Test	134
Grammar Exercise	134
Reading Skills Practice: Making Predictions	135
Topics for Writing and Discussion	137
Lesson Thirteen	138
To The Will Co.	100

Comprehension Exercise	142
Vocabulary Exercises	
Cloze Test	
Reading Skills Practice: Observing the Flow of Thoughts	
Topics for Writing and Discussion	149
Lesson Fourteen	
Text: Politics and the English Language	
Comprehension Exercise	
Vocabulary Exercises	
Cloze Test	
Reading Skills Practice	
Bibliography	173
Key	174

Lesson One

Basic Research and Graduate Education

Basic research is the cutting of paths through the unknown. As most of us know today, it is the pacesetter for technology and the raw material of invention.

Because basic research is aimed at understanding rather than at practical results, the layman sometimes assumes that it is entirely abstract and theoretical, and that only when it becomes a matter of industrial development does it "come down to earth." This is a false notion, and its falsity becomes increasingly clear with time. Indeed, one striking characteristic of our scientific age has been the disappearance of the barriers between pure and applied science. Not only are we finding important technological application for mathematical and scientific knowledge which was formerly thought of as abstract and "useless," but the advance of technology has both generated new problems in pure science and provided new tools with which such science can be advanced more effectively. The development of the techniques and hardware for radar during the war, for example, gave the physicist and the chemist a new and refined tool for investigating the properties of solids and of chemical compounds. Conversely, the extensive use of this tool in basic science has opened the way to entirely new techniques in electronics. Similarly, the development of large-scale electronic computers has led engineers to find practical uses for some of the most abstruse and "impractical" branches of higher mathematics, while the understanding of the techniques of using computers has, on the other hand, given us deeper insight into some aspects of the behavior of complex biological and social systems. Basic and applied science today are distinguished less by method and content than by motivation. Very often, indeed, the same man can be both "pure scientist" and "engineer," as he works on different problems or on different parts of one problem.

By the word scientist we mean someone who is fit to take part in basic research, to learn without a teacher, to discover and attack significant problems not yet solved, to show the nature of this process to others--someone, in short, who is equipped to spend a lifetime in the advancement of science, to the best of his ability.

25

The process of graduate education and the process of basic research belong together at every possible level. The two kinds of activity reinforce each other in a great variety of ways, and each is weakened when carried on without the other.

If graduate education aims at making scientists, and if inquiry into what is unknown is the moving principle of all science, it is not surprising that experience of this kind of inquiry should be essential in graduate education. Clearly such experience is best obtained in association with others who have had it or are having it themselves. The apprentice scientist learns best when he learns in an atmosphere of active research work. In all forms of scientific work a man's effectiveness is multiplied when he has that depth of understanding of his subject that comes only with the experience of working at a research problem.

The process of graduate education depends on "research" just as much as upon "teaching"--indeed, the two are essentially inseparable--and there is a radical error in trying to think of them as different or opposite forms of activity. From the point of view of the

graduate student, the teaching and the research of his professor are, at the crucial point which defines the whole, united. What he learns is not opposite from research; it is research. Of course many necessary parts of a scientist's education have little to do with research, and obviously, also, for many professors there must be a gap between teaching a standard graduate course and working at one's own problems. Moreover, many good teachers--men who keep up with the new work in their subject and communicate its meaning clearly to their students--are not themselves engaged in research. Yet we insist on the central point: the would-be scientist must learn what it is like to do science, and this, which is research, is the most important thing he can be "taught."

So far we have been arguing that graduate education requires the experience of basic research. What happens when we turn the matter around, and ask whether basic research must be carried on only in conjunction with graduate education? Here the answer cannot be so categorical. Though our general conviction is that a fundamentally reciprocal relation does exist, it is clear that research of outstanding quality is often carried on in isolation from teaching and indeed quite outside the universities. While the great teacher of graduate students is almost invariably a research man too, there are many notable scientists who have as little as possible to do with teaching. First-rate industrial and governmental laboratories with commitments to specific programs are necessarily separated in some measure from teaching of a conventional sort. Thus, basic research can be, and is, carried on without much connection to graduate education.

Yet in the long run it is dangerous to separate research in any field entirely from education. The pool of graduate students in our universities is the pool from which the scientist of
the future must come. These young people do not easily study what is not taught; they do not
often learn the meaning of research which does not exist in their environment. A scientific
field which has no research life in the universities is at a grave disadvantage in recruiting new
members. As learning and teaching require research, so research, in the end, cannot be
sustained without teaching. Hence it is always important for research installations to maintain effective connections with students.

There is also the fact that in the wider sense all first-rate research laboratories are permeated by an atmosphere of learning. Successful research can be defined, indeed, as learning what has not been taught before, and a good scientist is constantly learning from others. We believe that research, learning, and teaching are deeply connected processes which should be kept together wherever possible.

Notes

This article is a section of the reports prepared by Dr. Glenn T.Seaborg, chairman of the Panel on Basic Research and Graduation of the President's Science Advisory Committee, published in SCIENCE (Vol. 132, No. 3442; Dec. 16, 1960), a weekly put out by the American Association for the Advancement of Science. Dr. Seaborg was then chancellor of the University of California, Berkeley.

Comprehension Exercises

- A. Choose the best answer to complete the statements.
 - 1. According to the author, basic research
 - a. is aimed at understanding and, therefore, is basically abstract and theoretical.
 - b. has opened the way to entirely new techniques in electronics.
 - c. gives us deeper insight into some aspects of the behavior of complex biological and social systems.
 - d, is sometimes hard to distinguish from applied science.
 - 2. Our scientific age is characterized by
 - a. the vanishing of barriers between pure and applied sciences.
 - b. the disappearance of differences between pure and applied sciences.
 - c. practical applications of some of the most abstract and impractical branches of science.
 - d. the invention of new and refined tools for investigation and research.
 - 3. According to the author, a scientist is one
 - a. who is able to participate in basic research and work on the unsolved problems.
 - b. who is able to develop his abilities in solving problems.
 - c. who is competent to show the process of research to others.
 - d. who is capable of doing all above-mentioned.
 - 4. In discussing the relationship between research and graduate education the author holds
 - a. that graduate education depends on research just as much as upon teaching.
 - b. that graduate students learn better when they work at a research problem.
 - c. that graduate education requires the experience of basic research.
 - d. that graduate education and research are inseparable and depend on each other.
 - 5. An apprentice scientist learns better in an atmosphere of research work because a graduate education requires the experience of basic research.
 - b. many professors are engaged in research and this is the most important thing they can teach.
 - c. when a person is doing research he has a better understanding of the subject he is learning and thus, the effectiveness is increased.
 - d. the process of graduate education and the process of basic research belong together at every possible level.
 - 6. Which of the following statements is true?
 - a. Basic research must be carried out only in conjunction with graduate education.
 - b. The great teacher of graduate students is invariably a research man.
 - c. Many scientists carry out their research in isolation from teaching.
 - d. First-rate industrial and governmental laboratories are not separated from teaching.
- B. Determining the meaning of the underlined words in the context.

```
7. In this context, a pacesetter is a ... (L. 2)
    a. person who decides how fast one should go.
    b. person who serves as a model for others to follow.
    c. person who takes the lead.
    d. a thing that paves the way.
   ... a new and refined tool for investigating ... (L. 13)
   a. clean
    b. elegant
    c. delicate
    d. purified
9.
  ... some of the most abstruse and "impractical" ... (L. 16)
    a. abstract
    b. absolute
    c. absurd
    d. hard to comprehend
10. ... and there is a radical error ... (L. 37)
    a. fundamental
    b. severe. extreme
    c. revolutionary
    d. rapid
11. ... at the crucial point ... (L. 39)
    a. serious
    b. significant
    c. memorable
    d. critical
12. ... the answer cannot be so categorical. (L. 51)
    a. conditional
    b. dubious
    c. explicit
    d. vague
13. ... a fundamental reciprocal relation ... (L. 51)
    a. supplementary
    b. unilateral
    c. unconditional
    d. two-way
14. ... with commitments to specific programs ... (L. 56)
    a. responsibilities
    b. confinement
    c. agreement
    d. promise
15. The pool of graduate students ... (L. 60)
    a. pond, lake
    b. group, association
    c. resources, funds
```

d. a supply of equipment, trained personnel

16. ... are <u>permeated</u> by an atmosphere ... (L. 68)
a. permitted
b. spread over
c. affected every part of
d. penetrated

Vocabulary Exercises

Δ	Fill in the blanks using	vour ki	nowledge about prefix, suffix and stem.	
41.	riii iii the blanks using	youi ki	nowieuge about prenx, sumx and stein.	
	1. If a person is a bili	ngual ,	he speaks	
	2. If phon means sound	, then	euphonious means	
 If phon means sound, then euphonious means If toxin means poison, what is the word meaning something against poison? 				
			mean no longer happy	
	5. The opposite of inclu			
			ride, what does <u>bisect</u> mean?	
	7. What is the opposite			
	8. What is the opposite	of diss	<u>ent</u> ?	
	9. What is the opposite	of opp	onent?	
			ds, what does heterogeneous mean?	
	<u> </u>			
В.	For each word in column	ı I, fin	d a synonym or antonym in column II.	
	I		П	
	11. specialized	a.	forbidden	
	12. prohibited	b.	critical	
	13. restricted	c.	worry	
	14. limits	d.	unilateral	
	15. require	e.	compel	
	16. anxiety	f.	obligation	
	17. penalties	g.	general	
	18. radical	h.	endure	
	19. categorical	i.	rewards	
	20. sustain	j.	boundaries	
	21. commitment	k.	inessential	
	22. reciprocal	l.	ambiguous	
	23. crucial	m.	consistently	
	24. inhabited	n.	open	
	25. invariably	о.	peopled	

C.In each item, select the answer that gives the best definition of the underlined word.

26,	Raw sugar must be processed and r	<u>efined</u> before we can eat it.				
	a. cleaned	c. delicate				
	b. elegant	d. purified				
27.	He could explain an abstruse theory	in very simple terms.				
	a. a puzzling	c. a hard to remember				
	b. a difficult to understand	d. an important				
28.	A pleasant fragrance of roses permea	ted her living room.				
	a. came out of	c. spread throughout				
	b. got into	d. kept from escaping				
29.	I can attest to his reliability, for I	have known him for many years.				
	a. compete	c. test				
	b. adore	d. bear out				
30.	Many of his arguments have no pert	inence to the subject under discussion.				
	a. importance	c. value				
	b. necessity	d. relevance				
31.	A four-day meeting was called to assess	Washington's withdrawal from the United				
	Nations Educational, Scientific and C	_				
	a. discuss	c. appraise				
	b. evaluate	d. condemn				
32.	Mr.Haydon worked as a barber and spent	t seven years in the Air Force with combat				
	experience in Germany in World War II.					
	a. fighting	c. unforgettable				
	b. terrible	d. complex				
33.	The stroke left him with serious difficultie	s in speaking and with an impaired memory				
	for events.					
	a. forgotten	c. harmful				
	b. weakened	d. impartial				
34.	Henry, a retired subway motorman who moved into Riverton the year it was completed,					
	commented, "This place is jammed."					
	a. beautiful	c. crowded				
	b. spacious	d. uncontaminated				
35.	•	be into charges that France was involved in				
	mining the protest ship Rainbow Warrior, said it would be unacceptable if secret agents					
	sank a ship with loss of life.					
	a. finding	c. investigation				
	b. engraving	d. excavation				
Che	pose answer a, b, c, or d that best	fills in the blank.				
36.	Since I am only a, I canno	t presume to interpret this scholarly work.				
	a. votary	c. bigot				
	b. layman	d. egoist				
37.	Albert Einstein's theory of relativity					
	a. abstruse .	e. abstract				
	b. puzzling	d. simple				

D.

38.	Betty's to become a law	yer does not seem to be very strong.				
	a. supposition	c. presumption				
	b. proposal	d. motivation				
39.	The businessman was only interested	in the news.				
	a. medical	c. crucial				
	b. financial	d. economic				
40.	Any culture, which, in the interests of ef	ficiency or in the name of some political or				
	· ·	human individual, an outrage				
	against man's biological nature.					
	a. commits	c. makes				
	b. performs	d. does				
41.	-	owly the practices of the island				
	dwellers.	process of the follows				
	a. spread	c. permeated				
	b. perpetuated	d. kept from forgetting				
42.	They have been with a	•				
	a. accused	c. condemned				
	b. convicted	d. charged.				
43		to school after the glorious summer holidays.				
ю.	a. often	c. soon				
	b, fast	d. late				
44.		new dining-room curtains from				
	dark blue to grey within a year.					
	a. faded	c. paled				
	b. fainted	d. bleached				
45						
10.	i. The curator of the Museum was most and let me actually examine the ancient manuscript.					
	a. favourable	c. obliging				
	b. gratifying	d. pleasing				
n. gramynig a. picasing						
Cor	mplete each of the following sentences with	an appropriate word form of one of the verbs				
	ow. Note there are more words than					
	appear assume	generate				
	aim inspire	dispose				
	addict identify	obscure				
	heal obtain	boost				
	fit consume	apply				
46.	Susan that it was a very cold	day when she looked out the window and saw				
	people wearing heavy coats, hats and	•				
47.	• • •	bank president by the time he is 45.				
	I intend for a driver's					
	They do not know what career their					

E.

	50. These books can only be read when special permission is from the head
	librarian.
	51. A wound when the injured place recovers its normal healthy condition and
	new skin forms over it and covers it.
	52. The suspect tried to the case against him.
	53. She is to reading detective stories.
	54. The new assembly line production by 20 percent.
	55. The champion of the other fighter by knocking him out in the second
	round.
F.	Form a word from the word in capitals given at the end of each sentence to fill each space.
	56. Your that your history teacher gives you low marks because she dislikes
	you is unjustified. (ASSUME)
	57. One feature of modern society is the rapid of many conventions. (APPEAR)
	58. We recognize Charlie Chaplin in films by his behavioral patterns as well as
	by his physical (CHARACTER)
	59. Although the manufacturer claimed that the fabric was by water, the rain
	soaked through it within a few minutes. (PERMEATE)
	60. The lost child walked around (AIM)
	61. Use the to put the iodine on your foot. (APPLY)
	62. That man has several marks on his arm from being burned. (IDENTIFY)
	63. During a recession, the of luxury items decreases. (CONSUME)
	64. I hate to you, but your chances of winning are nit. (ILLUSION)
	C) The c
	Cloze Test
	Directions: Fill each space in the following passage with only ONE word.
	California's Giants (I)
	Sequoia National Park in California is the home of the oldest and biggest living things. They
are	the famous "big trees", the giant sequoias.
	At (1), reports of these (2) were thought to be tall (3). Imagine trees thirty
	t thick (4) the bottom and three hundred feet (5) ! And three thousand years old,
ma	ybe (6) . It was unbelievable.
	In (7), there are about seventy groves of (8) sequoias. Thirty-two different groves
	(9) within Sequoia National Park. The (10), the Giant Forest, contains the big trees
in	every (11) of growth, from tiny seedlings to sky-piercing (12).
	The giant sequoia (13) seeds every year. It blooms (14) winter, when the ground
-	(15) with snow. The flowers give (16) to bright green cones (17) tiny seeds.
	llions of these (18) • fall to the ground (19) autumn. If they fall on a grass-or trash-
	vered forest (20), they cannot sprout. (21) if they fall on freshly turned (22)
	ey will begin to grow the (23) spring. Many birds and animals like to (24) the tender
gre	en sprouts, so that <u>(25)</u> a few of the sequoia seedlings manage to live through the first
vea	ur.

Reading Skills Practice

Finding Main Idea in a Passage

Directions: Read the following passages and then think of a good title for each of the passages

Passage One

The welcome which a Kurdish tribe gives a guest is not only hearty, but it is a bloody affair as well. On the outskirts of the village a delegation of men hold a steer ready for the slaughter, and, as the guest approaches, one of the tribesmen stabs the animal in the throat. There is the last agonizing moment when the steer lets loose a bloody, gurgling bellow before it is dragged across the road, leaving a stream of blood in its wake. The guest then steps across the blood. The executioner saws vigorously on the neck of the beast until the head is severed and then heaves it to the side of the road. The khan, or other ranking host, turns to the guest, takes him by the hand, and says in a loud, ringing voice, "May that happen to the heads of all your enemies."

The new arrival is now a member of the tribe. He has special privileges, too. Each tribesman would give his life to defend him. Every man, woman, and child will cater to his needs and show him every courtesy. People of the Western world also want to receive their guests cordially, but the Western version of hospitality certainly seems far less extreme.

The	best	title	for	Passage	One	is	
-----	------	-------	-----	---------	-----	----	--

Passage Two

The potential of closed-circuit television and other new electronic teaching tools is so great that it is fascinating to visualize "the school of tomorrow."

Television lessons will originate from a central building having perhaps four or five master studios. The lessons will be carried into classrooms all over a city, or even an entire country.

After a televised lesson has been given, the classroom teacher will take over for the allimportant "follow-up" period. The students will ask any troublesome questions, and difficult points will be cleared up through discussion.

The teacher in the classroom will have additional electronic tools. On the teacher's desk, the traditional bright red apple will have been replaced by a multiple-control panel and magnetic tape players. The tape machines will run pre-recorded lessons which pupils will follow by headphones. The lessons will be specifically geared to the students' levels of ability. For instance, while the class as a whole studies history, each student will receive an individual history lesson, directed to his particular level of ability.

Should questions arise, the students will be able to talk directly to the teacher on individual "intercoms" without disturbing the rest of the class. In this way, the teacher will be able to conduct as many as three classes at the same time.

The best title for Passage Two is _____.

Writing Exercise

Directions: Write an outline of the main points based on Lesson One.