

理工科学生、科技人员适用

# 《新编科技英语语法》 练习册

秦荻辉

编选

陕西科学技术出版社

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## 编者的话

本练习册是《新编科技英语语法》的配套材料。全书共摘收各类练习题 2214 道，主要供读者巩固对该“语法”书的所学内容之用。

本材料共分三大部分。第一部分为“英语单句分析与翻译”，共摘收了 1764 个句子，分别安排在 23 类练习中，这些练习全是按“语法”书的内容顺序编排的。这些句子中绝大多数都是编者直接从原版科技书刊（主要是物理、数学和电子学书籍）摘录下来的，很具典型性，读者通过分析翻译这些句子，不仅可以巩固所学的语法条文，而且能增强科技英语语感，扩大词汇量，进而提高英语科技书刊的阅读能力。每类练习又分两组，第一组为比较常见而易理解的句子，第二组相对来说稍难一些（有的句子可能在分析与翻译两个方面均是相当难的）。第二部分为“单句汉译英”，共编入了 85 句，由编者根据“语法”书的主要内容编成。通过这些句子的翻译练习，读者既可进一步巩固所学的语法条文，又非常有助于提高撰写英语科技论文的能力。第三部分为“附加语法练习”，共收录了 365 题，分成三类练习——“介词填空”（65 题），“动词填空”（110 题）和“选错”（190 题），多数摘自各类试题。编入这个部分的目的，是使学有余力的读者为今后参加某种考核打下一定的基础，同时也有利于巩固所学的某些语法条文。

到底本材料是否能达到编者预期的目的，只有经过实践才能知晓，因此敬请使用者能不断地反馈信息并提出改进的意见，编者将不胜感激。

本材料适用于理工科大学高年级学生、硕士生、专业教师及科技工作者；同时也可供大学英语教师参考。

编者

1990年3月于

西安电子科技大学外语系

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# Part I Analysis and Translation of Individual English Sentences

## Exercise 1

### Articles, Coordinators and Numerals

Put the following sentences into Chinese:

(1)

1. The solution of an equation generally requires a combination of the basic operations.
2. The unit of potential difference is the volt.
3. A magnet in a magnetic field will be subject to a force.
4. In this case the current exists for only half the cycle.
5. Starting from rest, how long a time will it take the cylinder to make 12 revolutions?
6. We find that we are dealing with too large a class of circuits.
7. Any preexisting illness, even as mild a one as the common cold, increases the chances of contracting another disease.



8. We use as low an order of polynomial as appears plausible.
9. How great a tangential force would have to be applied to the earth's equator for a year in order to stop the earth from rotating?
10. This point should represent as high a value of the magnetic induction as possible.
11. The farad is too large a unit that, for practical purposes, it is usually replaced by the microfarad or picofarad.
12.  $\epsilon$  may be as small a positive constant as you please.
13. The action force acts on the objects, and the reacting force acts on the agent applying the force.
14. At first glance, it seems that the causes of the magnetic field observed around a bar magnet and of the identical sort of magnetic field around a current-carrying wire must be entirely different.
15. This equation has no roots, for the sum of three squares can not be equal to  $-1$ .
16. Evidently a conductor must be supported on an insulating handle or the charges developed on it will at once leak away.
17. It is assumed that gas molecules have volumes so small as to be negligible, that they exert no forces upon one another except in actual collisions, that these collisions conserve kinetic energy, and that the

molecules have no kinetic energy of rotation or internal vibration.

18. All gate times are increased by a factor of 8.
19. This hydraulic press is 90% efficient.
20. So-called "standard resistors" are available commercially with resistances ranging from 0.001 ohm to 10,000 ohms, accurate to within a few hundredths of one per cent.
21. These particles are capable of traveling a few tenths or hundredths of a millimeter through solids.
22. Something traveling at nine-tenths the speed of light is shortened to 43.6%.
23. When one's face is 9 in. from the mirror, the image one sees is magnified twice.
24. The presence of the iron in the coil has increased the magnetic induction to over 5500 times what it would be if the coil were in vacuum.
25. Fahrenheit degrees are five-ninths as large as celsius degrees.
26. The wavelength of this musical note is 7.8 ft, over three times longer than the wavelength of the same note in air (2.5 ft).
27. Their difference in this case is only 13 parts in a thousand.

(2)

28. This would involve too extended a treatment of the

theory of elasticity.

29. A change in direction represents as real an acceleration as a change in speed.
30. So instinctive an act as choosing a gradual slope of a hill to walk up instead of a steep slope is based on the principle of the inclined plane.
31. This will allow as broad a field as possible to be covered.
32. Often the data cover too large a range of values to be plotted on ordinary graph paper.
33. The capacitance will decrease by 750 parts per million per each degree rise in temperature.
34. To illustrate a second difficulty that may arise during subtractive operations, consider the following example.
35. The input numbers must be encoded in some BCD representation, making the total number of Boolean inputs at least 8.

## Exercise 2

### Prepositional Phrases

State the functions of the prepositional phrases in the sentences below and then put the sentences into Chinese:

(1)

- 36. This section may be of interest to students.
- 37. Another geometric application of radians is in finding the area of a sector of a circle.
- 38. In this example, the motion must be along the slope.
- 39. One of the clearest ways to demonstrate the variation of the trigonometric functions is by means of their graphs.
- 40. The resistance of the load is too high for the amplifier.
- 41. A circuit may be defined as a path for current flow.
- 42. Motion with constant acceleration is motion under the action of a constant force.
- 43. Friction arises from the nature of the contact between the floor and box.
- 44. The condition for particle equilibrium may be expressed in the form
$$\sum F = 0.$$
- 45. An apple of mass 0.5 kg is on a branch 5 m from the ground.
- 46. From the pattern of lines of force around each wire, it is clear that the forces are always opposite in direction.
- 47. The potentiometer described above can be read

within  $10^{-4}$  volt.

48. These transistor circuits can amplify voltage signals with minimum waveform distortion.
49. Electric power is expended in forcing a current through the resistance of the conductor.
50. The capacitive reactance is appreciable except at frequencies near the high-frequency cutoff.
51. Communications on earth can be improved with the use of laser beams.
52. For every force in one direction there is an equal force in the opposite direction.
53. The charge on the equivalent capacitor must equal the sum of the charges on the two capacitors.
54. Motion may be defined as a continuous change of a body in position.
55. The sound-carrying medium may be matter in any state.
56. The properties of the medium affect the speed of sound in two ways.
57. Sound waves are vibrations in the medium.
58. Diesel engines are one of the main sources of power for ships and locomotives.
59. It is possible for you to find the difference between high and low frequency sound waves.
60.  $F$  can be expanded in a power series about the point  $x = a$ .

61. Most of the fuel we use today comes from under the ground.
62. Electricity goes through the circuit.
63. Energy can do work for us.
64. Often it is to our advantage to do work by applying a small force over a long distance.
65. We consider it of great importance that theory should be combined with practice.
66. All substances on the earth are made up of atoms.
67. The switches in the box control the lights in that laboratory.
68. Antennas must be in electromagnetic fields.
69. We use magnets in motors.
70. In an electric cell, an electric current is produced by the chemical changes of the chemicals in it.
71. Our earth is a big magnet with an N pole and an S pole.
72. In a normal atom the positive charge on the nucleus is exactly balanced by the negative charges on the electrons.
73. Light from common sources travel in all directions from the source.

(2)

74. Alternating current as a source of power has certain advantages over direct current.
75. Equations (2-3) through (2-5) are true for all ca-

pacitors regardless of their construction.

76. A suspended object is in equilibrium when the tension in the rope is equal in magnitude to the weight of the object.
77. A thickening agent has been added to prevent the oil from running out from between the surfaces involved.
78. Over about the first 50 years of this century, these were the outstanding inventions.
79. The radio waves that bring us music and speech are usually between 200 and 600 meters long.
80. The letter E by the cell stands for electromotive force.
81. File transfers to and from the hard disks occur from 6 to 10 times faster than is commonly seen in floppy disk systems.
82. The authors are with the IBM laboratories.
83. The errors will be small of order two in  $1/R_c$ .

### Exercise 3

#### Verbs and Adverbs

Analyze the following sentences and then put them into Chinese.

(1)

84. The bel has proved to be a little too large for con-

venient use.

85. A force  $F$  acting on a mass  $m$  will give it a linear acceleration of  $a = F/m$ .
86. These laws tell us the acceleration given to a particle by its interactions with the other particles.
87. In everyday life, forces seem to be transmitted by "direct contact."
88. There appear to be two kinds of electric charge.
89. In rotational motion, torque plays the same role that force does in translational motion.
90. The first result looks reasonable, for the area under the curve might well be 2 units.
91. The integrands of these integrals do not remain finite.
92. It turns out to be more convenient to use polar coordinates.
93. A 2-lb book lies stationary on a table.
94. The amplitude of this kind of currents stays constant.
95. At the resonant frequency  $Z_{11}(j\omega)$  appears purely resistive.
96. When resistances are connected in series, we need only add them together.
97. The enabling signal goes FALSE.
98. A change in the current in a wire loop gives rise to an induced emf in another loop nearby.



99. Molecules at the hot end of a rod vibrate faster and faster as the temperature there increases.
100. Their total momentum before they collide equals their total momentum afterward.
- 101. Potential energy refers to the energy something has as a consequence of its position anywhere.
102. To get out a car that is stuck in mud, the driver ties one end of a rope to the car and the other to a tree 100 ft away.
103. Most substances fall into one or the other of the two classes above.
104. The table below gives the proper values for the graph of  $y = \cos x$ .
105. The size of the plates, their distance apart, etc., have nothing to do with the voltage of a battery.
106. The major features here can be explained qualitatively as follows.
107. The amplifier will give a large enough gain so that the signal can be observed at the output.
108. The light is illuminated if one switch is up and one is down. It is off if both are up or both are down.
109. Various parameters of the model are given in the list below.
110. In insulators loose electrons nearby are prevented from moving about.