练习 1

I、

1、an （人们对这课题的兴趣越来越浓。)

2、a （功率额定值是电阻器不会引起温度太大的上升而能安全地耗散的最大功率。）

3、an（其主要的缺点是增加了噪声。）

4、The; a（该设备的成功设计需要详细地了解性能指标。）

5、the; a; a（在氢原子的布尔模型中，一个电子绕一个质子以半径为 R 的圆周运转。）

6、the（频率的单位是赫兹。）

7、a; a; an; the（如果在电路的两端加上电压的话，就会有电流在电路中流动。）

8、/; /（图 5－1 画出了 Oersted 的实验。）

9、an（这里我们应该使用一个 18 伏的电池。）

10、A; a; a（机器是能够传递力来完成某一确定目的的一种设备。）

11、The; /（水压机将在第 14 章加以考虑。）

12、The; the; the（研究处于运动中的流体，是力学中较为困难的分支之一，因为可能出现的现象是多种多样的。）

13、the; the [/]（我们容易确定参数 μ 的值。）

14、/; the（根据式（2－1），我们得到以下的关系式。）

15、an（在这里必须使用一根 S 形管子。）

16、the; /（作者工作在位于阿林顿的得克萨斯大学。）

17、an（这是一只 R 位的变换器。）

18、An（这里必须使用一个“异”或门电路。XOR = Exclusive OR）

II、

1. This is an h parameter.
2. We turn now to a discussion of local area networks.
3. The Bainbridge mass spectrometer is as important an instrument as the optical spectrometer.
4. It is necessary to find out how long a time is required for an electron to travel the [this] length of the wire.
5. The density of a substance is its mass per unit volume.
6. The radius of the earth is 6.37×10^6 m.
7. The [These] two parameters are the same.
8. An increase in pressure always causes a decrease in volume.
9. Fig. (2-5) shows what is expressed by Eq. (2-2).
10. The unit of inductance is the henry.
11. Too large an input signal can cause nonlinear distortion.
12. Using the definition of slope, we can derive the equation which represents a straight line.
13. The expression $f(x+h)-f(x)$ is frequently used in the study of calculus.
14. An equation which can be written in the following form is known as a linear equation in one unknown.
15. In a computer, the tendency is to operate at as high a clock rate as possible.
16. Tin does not have as high a melting point as lead (does).
17. This average velocity is half the final velocity.
18. Electricity can be easily changed into other forms of energy.

19. In 1831, Joseph Henry in the United States discovered the phenomenon of electromagnetic induction.
20. A computer consists of several parts [units].

IV、

1. The UASMA protocol employs a unique frame structure.
2. Performance analysis of an M-ary spread spectrum receiver using biorthogonal cyclic codes
3. Finally, a broad stepped impedance transformer is designed by this method.
4. Dynamic analysis and evaluation of the security of a proactive secret sharing system
5. With the state-transition diagram, the security probability of the system is obtained.
6. The approach can be applied to the one-dimensional potential barrier with an arbitrary profile.
7. We propose a numerical method based on Newton's iterative method.

练习 2

I、

1. Ordinary transformers are not ideal, and therefore power losses occur in them.
2. This material attracts iron objects and can even magnetize them.
3. This circuit consists of a battery, an inductor and a capacitor.
4. Compute the electric fields at points a, b, and c.
5. This satellite is used for communications between the United States and Great Britain, France and Italy.
6. Matter is anything like air, water or wood.
7. Assume that losses in the coil are zero, that C = 500 μ F, and that the ripple is 20 percent.
8. It is found more convenient to adopt the point of view that a moving charge sets up a magnetic field, and that this field exerts a force on another charge moving through it.
9. Chapters 6, 7, and 8 deal with what is called the electronic brain.
10. Students may learn that mathematics is the language for scientific ideas, that science is a source of mathematical ideas, and that mathematics can furnish brilliant answers to important scientific problems.

II、

1. The current in the circuit is one half the short-circuit current of the source.
2. The internal resistance of this kind of storage battery is only a few thousandths of an ohm.
3. Its error is six parts in 10^{12}.
4. This computer stores four times more information than that one (does).
5. The mass of the moon is 1/80 that of the earth.
6. The demand for this kind of equipment in the near future will be 20 times what it is.
7. The voltage across this component is a few tenths of a volt.
8. Now its internal pressure is one third what it was.

IV、

1. The voltage across this capacitor is a few hundredths of a volt.
2. This object is five times heavier than that one is.
3. Unless otherwise stated, it is assumed that silicon transistors are used and that I_{CBO} can be

neglected.

4. This circuit has the advantages of simple structure and easy adjustment.

5. Figs. 1, 2, and 3 show this process.

6. For further information, consult references [3, 5, 9].

7. The interior point is a minimum rather than a maximum, given that the return functions are convex, and that the Hessian determinant is positive.

练习 3

I、

1. This type of computer has many advantages over that type.

2. We must solve this equation for the loop current.

3. Of these five new chapters, the first one deals with the basic principles of negative feedback.

4. This section introduces [presents] the concept of force.

5. This parameter varies [changes] with temperature.

6. The current and voltage in this circuit differ in phase by 90^{o}. [The phases of the current and voltage in this circuit differ by 90^{o}.]

7. Sound waves travel in all directions.

8. By analyzing [By the analysis of] the parameters of the instrument, we can understand its performance.

9. This is a sufficient and necessary condition for solving [the solution of] the equation.

10. We will find out its average velocity over this distance.

11. We measure force in newtons.

12. This paper introduces a new method for measuring this parameter.

II、

1. For $x>1$, there is no solution to this equation [this equation has no solution].

2. Upon [On] substituting [substitution of] these values into [to] the equation, it was found that v is equal to the velocity of light.

3. In their study of electricity, physicists defined the parameter.

4. This circuit is similar in operation to that of Fig. 1-10.

5. In our discussion of this subject, we shall restrict our attention to its basic principles.

6. We describe the interactions among charges with the help of the concept of electric field.

7. This is due in part to the earth's rotation.

8. Upon [On] application of proper external force, the body will start to move.

9. This computer is very small in size.

10. These waves travel only in one direction.

IV、

1. This paper presents a new method for the recognition of radar targets.

2. The influence of the moving state of the target on the tracking accuracy of the EKF is great.

3. This new method has many advantages over those available.

4. This newly designed instrument is good in quality [is of good quality].

5. Another comsat was launched on the morning of the 8th of October.

6. Voltage is measured in volts.

7. This experiment started at 8 o'clock last night.

8. They will leave for Beijing to attend an international conference on mobile communication.

练习 4

I、

1. The answer (key) to this problem looks (appears) correct.

2. This coefficient remains to be determined.

3. The two equations below will be often (frequently) used in later chapters.

4. Here we use two metal balls 10 cm apart.

5. This paper contains (has) nothing new. [There is nothing new in this paper.]

6. The force acts perpendicular to the surface of the table.

7. This rule can be used for [… can apply to] all integers, both positive and negative.

8. A neutron has a mass slightly larger than that of a proton. [… has a slightly mass than a proton.]

9. Electrons are the smallest particles present in ordinary matter.

10. All the textbooks available discuss this problem.

11. Accurate in operation and high in speed, computers have found wide applications.

12. The input goes negative and [while] the output stays constant.

13. These rays seem to come from the image.

14. Impedance in an ac-circuit plays the same role that resistance does in a dc-circuit.

15. Two parallel wires a distance (of) δ apart carry the current *i*.

16. The equations here are of great importance.

17. We shall use a cable 10 meters long.

18. The problem now is how to measure the voltage across this component.

19. These data will be sent to the computing center 2 kilometers away.

20. Upon rearranging the equation above, we have [get, obtain] the following expression.

21. That statement sounds quite reasonable.

22. Electrons can pass relatively unimpeded through metals.

23. The body collides with other bodies nearby.

24. These charges can interact with other charges present.

25. Forces can be transmitted without contact, contrary to the common belief.

26. There is no root larger than 1 [unity].

27. This coefficient is typically 0.35.

28. The charge is moving parallel to the electric field.

III、

1. This running machine will stop of itself in one or two minutes [… in a minute or two].

2. In this case, the input does not fall; nor [neither] does the output. […; the output does not fall, either.]

3. The resistance of a conductor depends not only on the material of which the conductor is

made, but also on the size and temperature of the conductor.

4. These scientists are very interested in this topic.

5. This parameter can hardly be measured.

6. The preface to this book is well written.

7. In this laboratory, this instrument is more expensive than any other one. [… than any one else.]

8. The features of this device are small size and light weight.

练习 5

I、

1. The detection process can be performed in either of the following two ways.

2. There is a capacitance across the junction. Its presence [existence] will cause problems at high frequencies.

3. This baseball will soon come to rest because of its interaction with the ground.

4. Our choice of this coefficient as 1 is correct.

5. This is due to its use of relays rather than electronic devices.

6. Since transformers are large, heavy, and expensive, their elimination from the circuit will result in considerable savings.

7. Emphasis is put on floated gyroscopes because of their utilization [use] as a control component.

8. From its definition as the ratio of a force to a length, we can see that *k* has the same unit as work (does).

9. In this equation, that factor is ignored. Its inclusion here would merely complicate the proceedings.

10. In their discussion of that problem, scientists noticed this point.

11. Since feedback plays an important role in electronic circuits, its study is of great importance.

12. The black hole is invisible [cannot be seen], but its presence [existence] can be deduced.

13. Our analysis of the machine is of great significance.

14. This facilitates their use in circuit analysis.

15. The success in design depends on our correct choice of the circuit.

II、

1. Soon [Before long] we shall have computers the size of a watch.

2. This police car is equipped with a receiver the size of a matchbox.

3. Wires one hundredth the diameter of a silk thread are used to connect these components.

4. We must heat treat these tools.

5. In the past, telephone calls were operator connected.

6. This device is computer controlled.

7. This device is water resistant.

8. AC can be changed [turned, converted, transformed, translated] into [to] DC, a process called [known as, referred to as] rectification.

9. A magnet attracts iron materials, a familiar phenomenon.

10. If this relation were to hold, we would have a negative current, an impossible situation.

11. The current in a circuit is proportional to the applied voltage, something [a fact] that was verified experimentally by Ohm.

12. Computers are capable of processing information, a process that previously could be accomplished only inside our heads.

13. A new technology introduced in the 1960's, laser can pierce the hardest substances such as diamond.

14. A very effective separation method, chromatography has found wide applications.

15. This aluminum bar 2.5 m long has a rectangular cross section 1 cm by 5 cm.

16. This law applies to bodies the speed of a rocket.

17. We must frequency modulate it.

18. To solve this problem, we must take everything [all factors] into account, a very complicated procedure.

19. An instrument for measuring current, voltage, and resistance, the multimeter is widely used in electrical engineering.

20. These materials are pressure sensitive.

III、

1. In the equations above, all *h*'s are the hybrid parameters.

2. Between times t_2 and t_3 the diode appears to be on.

3. In this circuit, there are three emf's.

4. The mass of the standard pound is equal to 0.4535924277 kilograms.

5. All *a*'s and *b*'s in Eq. (5-1) are related to the impedance R_o.

6. This section describes the advantages of AC over DC.

7. We must take the effect of temperature on [upon] semiconductors into account.

8. In this case, the variation of output with input is very small.

9. This curve shows the dependence of distance on [upon] speed.

10. The use of the atomic energy as the source of power is very important.

11. The separation of impurities from the ore is very difficult.

12. We are all familiar with the definition of current as the flow of charge.

V、

1. Other types of series are also widely used in engineering.

2. None of them can solve this special type of differential equation.

3. They do not know whether this material can stand so large a force or not.

4. The machine will automatically start to operate again in two hours.

5. There are M polygons altogether, each of which has N vertexes.

6. The advantages of this method over the scanning method have also been discussed.

7. These two engineers are busy (in) designing a new kind of software.

8. Iron is almost as good a conductor as aluminum.

练习 6

I、

1. This image, it will be noticed, is a real image.

2. This device, it is said, was commercially available three years ago.〔≈This device is said

to have been commercially available.]

3. This technical problem, we hope, will be solved soon.

4. These systems will be presented in what the author hopes is a concise manner.

5. 2^{10} is approximately 1000, a fact that we think is very useful in the study of digital electronics.

6. A resistor of say 100 ohms should be used here.

7. Velocity is, we have noted before, a vector.

II、

1. No circuit has no resistance. [There is not a (no) single circuit that has any resistance.]

2. None of those textbooks have (has) mentioned this point.

3. All of these x values cannot satisfy the equation.

4. Neither of the two conditions is satisfied.

5. In the preceding chapter, we discussed all kinds of force.

6. This paper describes a new method for designing aircraft.

7. By the end of the last century, the company had manufactured 5000 radars.

8. Since 2002, this research institute has been developing a special kind of robot.

9. All the computers in our laboratory are not very good in quality.

10. The students are familiar with none of these parameters.

III、

1. In Section 1-2, the concept of force was introduced.

2. As early as the 1940s, it was found that semiconductors are very useful.

3. This result can also be arrived at in another way.

4. At that time no use was made of this phenomenon. (…, this Phenomenon was made no use of.)

5. This point will be dealt with in the next section.

IV、

1. This machine works much better than that one (does).

2. This computer requires many more components that that one (does).

3. Macros have far fewer uses in C++.

4. The distance of the moon from the earth is as great as 240,000 miles.

5. The greater the resistance, the longer time it takes for the capacitor to reach its maximum voltage. (…, the longer time is required for the capacitor to reach its maximum voltage.)

6. The farther the body is thrown, the greater force will be required.

7. Calculate how many more seconds are required for the wheel to come to rest [stop].

8. Of all the instruments in this laboratory, this one is the lowest in price […, this one is the cheapest].

9. Sound travels in hydrogen much faster than in air.

10. This astronomical observatory is the largest in our country.

11. The current as small as 0.1 A is too small to produce enough heat.

VI、

1. It is easy for us to determine the weight of the body. 或：We can determine the weight of the body easily.

2. Air exerts pressure in all directions.

3. Both the engineers are busy (in) designing a new type of computer.

4. We find this concept very difficult to explain.

5. None of these windows can withstand so large a force.

6. Substituting Eq. (1-7) in [into] Eq. (1-8), we obtain [have; get] the following relation. [Substituting (Substitution of) Eq. (1-7) in Eq. (1-8) yields [produces; gives; results in; leads to] the following relation.]

7. Sound travels less fast than light does.

8. Work equals [is equal to] force multiplied by distance.

9. This equipment has a few advantages all its own.

10. The results obtained agree with the experimental values. [… are in agreement with the experimental values.]

练习 7

I、

1. All we need to do is (to) measure the pressure on the body. [或：All that is necessary is to measure …; It is only necessary for us to measure …; We need only to measure ….]

2. It is quite possible for them to solve this equation.

3. It will take a few months to design this kind of aircraft with the help of a computer.

4. If it is desired to find out this force, we may use the parallelogram method.

5. It is left as a problem to [for] the reader to show that this expression hold.

6. The program to be executed is stored in this unit.

7. This valley acts as the foundation on which to build the dam.

8. In this laboratory there are many kinds of instrument for students to choose from.

9. Atoms are too small for us to see with our naked eyes.

10. Let it be required to find out this component.

11. Let t_0 equal [be equal to] zero.

12. The farther away the target (is), the longer time it takes for the echo to return.

13. We find this problem easy to solve.

14. It is necessary to solve this equation for x.

15. For the series to converge, x must be less than 1.

16. We find this concept very difficult to understand.

17. This method makes it much easier to detect targets.

18. Time-shared systems are expensive to build.

19. This factor will affect the ability of a computer to store information.

20. We have to find out how large to make r so as for the series to converge.

21. This is a pen to draw pictures with.

22. For the transistor to conduct, its base must be about 1.8 volts.

23. Elasticity is the tendency of a body to return to its original condition after being deformed.

24. An antenna is a device to transmit and receive radio waves.

25. The lack of such protection has made it easy for malicious programs to destroy data on systems.

26. These problems deserve to be further studied.

27. We consider it necessary to make measurements with accuracy.

28. R is the resistance to be measured.

29. Each member has a switch with which to indicate a YES or NO vote.

30. Ordinary matter is said to be electrically neutral.

31.This property makes it possible for metals to be made into any shape.

32. This table is unfit for a student to do experiments on.

33. Now we consider what path of integration to take.

34. In this case, the time necessary for the current to reach its maximum value is changed.

35. The purpose to write this book is to give the reader a brief introduction to electronic computers.

III、

1. The sine law of the variation of the cylinder diameter with light intensity has been emphasized.

2. Our method is different from those described [presented] in the papers available on [discussing] the same problem.

3. To do all this, a sound knowledge of computer science is necessary. […, it is necessary to have a sound knowledge of computer science.]

4. Not only do temperature and light affect the conductivity, but the addition of impurities to semiconductors also makes it change greatly.

5. Various satellites are frequently launched to obtain information about [on] space.

6. Our semiconductor industry came into being at the end of the 1950s.

7. Direct current flows always in one direction.

8. My colleagues and I would like to express our thanks to Professor W. Smith for his great help.

练习 8

I、

1. The compressed air has the ability to do work.

2. The presently existing integration methods do not apply [hold] here.

3. The amplifier amplifies the received signals.

4. Moving molecules have kinetic energy.

5. Fig. 1 – 3 shows the photo of a freely falling body.

6. Speed equals distance divided by time.

7. Voltage equals current multiplied by resistance.

8. The resistance of air increases with the increased [increasing] speed.

9. A transformer is a device consisting of two or more coils wound on [round] an iron core.

10. It is necessary to find out the current flowing through this component.

11. This book, properly used, will be of great help to the reader.

12. Flowing through a circuit, the current will lose part of its energy.

13. In this case, electrons have more energy, (thus) increasing the brightness of the light spot.

14. Given [Knowing] time and speed, we can find out distance.

15. Having studied this chapter, the student will understand the principle of a computer.

16. The speed of light being extremely great, we cannot measure it by ordinary methods.

17. Several comsats were launched, all of them (being) high-altitude satellites.

18. Called “the mother of all networks,” the Internet is a widely used international network.

19. The angle in radians, being defined as the ratio of a length to a length, is a pure number.

20. This force can be resolved into two components, one (being) horizontal and the other vertical.

II、

1. With the switch closed, the balance point is found by trial and error.
2. With both speakers on, what is the intensity at C?
3. The Internet Protocol was not designed with security in mind.
4. Let us construct [draw] a circle with the origin as the center and of radius R.
5. The equation to the circle of radius r with the center at the origin is $x^2 + y^2 = r^2$.
6. This parameter should be measured with E grounded.
7. Its Fourier transform can be obtained from Eq. (2 – 4), with the lower limit replaced by zero.
8. With no resistance in the circuit, the current will increase indefinitely.
9. With no input present, the output will be zero.
10. With this in view, we have written this book.

III、

1. Let us consider designing a voting machine.
2. Blood is capable of being broken down into various components.
3. Multiplying *a* and *b* together to give *e* may be written as $a \times b = e$.
4. We refer to these components as being passive.
5. A cell reproduces by dividing in two.
6. This involves taking the Fourier transform.
7. The light beam will be deflected upon entering the medium.
8. On rearranging the above equations, we obtain the following set of equations.
9. In using this equation, it does not matter which plane is considered as 1.
10. Compressing a gas quickly raises its temperature.
11. This machine needs repairing.
12. This book is worth reading.

VII、

1. The results obtained indicate that these two methods are consistent in essence, with the exception that they have their own specific application conditions.
2. A new algorithm has been designed which will be able to maintain the survival of useful copies, thus greatly reducing the number of packet copies in a network.
3. Given [Knowing] resistance and current, one [we] can determine voltage.
4. The price of this instrument is high.
5. This device occupies too much space/room.
6. A robot is a special kind of electronic device.
7. This scientist said, “Electrons move round the nucleus.”
8. The current starts flowing at the very moment we close the circuit.
9. There are a few exceptions to this rule.

10. They have been designing a new type of computer these six months.

练习 9

I、

1. The problem was not to be solved until a completely new method was introduced.

2. The values of most things must be converted from decimal to binary before computations can begin.

3. A body at rest will never move until force compels it.

4. Nearly 100 years passed before the existence [presence] of subatomic particles was confirmed by experiment [experimentally].

5. Diode D conducts the moment [the instant; directly; immediately] the input voltage becomes more negative than V.

6. The first time they designed an electronic computer, scientists encountered many difficulties.

7. The year this device was invented, World War II broke out.

8. Small as they are, atoms are made up of still smaller particles.

9. The voltage is always there while the generator is operating.

10. As current flows, part of its energy will be lost.

11. These two resistors should be selected [chosen] so that the transistor can operate normally.

12. The body is in such a state that it can do work.

II、

1. The relation that voltage is the product of current and resistance applies to all the dc circuits.

2. The fact that everything around us is matter is known to all.

3. The discovery that magnetism can produce current is extremely important in the field of electricity.

4. There is no doubt that the magnetic field is produced by some sort of circulating current.

5. An equation is an algebraic statement that two algebraic expressions are equal.

6. There is evidence that the mass of a body is the function of the body.

7. The question now arises whether this result applies to all cases.

8. In this case there is no guarantee that the series is convergent.

9. There is a growing awareness that these techniques are very useful.

10. One of [Among] the most noteworthy achievements at that time was the realization that light consists of electromagnetic waves.

11. The advent of electronics is reckoned from the discovery that the current in the vacuum diode can be controlled by introducing a third electrode.

12. This is due to [is caused by; results from] the fact that there are many free electrons in conductors.

13. There is no evidence that energy can be created or destroyed.

14. This series of experiment leads to the result that with a constant applied [external] force, the acceleration is inversely proportional to the mass.

15. Besides [In addition to] the fact that the properties of the material should be included in the analytical model, we must take other factors into account.

IV、

1. Compared with the theory presented in the literature published abroad in recent years that the polar axis should be in parallel with the earth's axis, the method given in this paper will lead to (a) higher accuracy.

2. These features make it difficult for electronic counter-measure systems to intercept, analyze and jam this kind of signals.

3. By the family of curves is meant a specified set of curves which satisfy given conditions.

4. The existence of and the ability to control these phenomena make those devices possible.

5. In this case it is necessary to use as much energy of signals as possible.

6. The variation of the number of the filter's teeth has a greater effect on the performance of its passband than the variation of its dimensions.

7. Scalar detection will result in the loss of some phase information.

8. Fig. 6 shows the schematic diagram of measuring scatter parameters by the natural parameter transformation method.

练习 10

I、

1. Now it remains to be determined when the series converges.

2. It is clear from Dubamel's Theorem that this limit exists.

3. How large this error is depends upon several [a few] factors.

4. It is a matter of indifference which point of view is adopted.

5. It should be emphasized that these definitions may be used for angles of any magnitude.

6. It is assumed that the student has a basic understanding of mechanical drawing.

7. It follows from Maxwell's hypothesis that whenever there is a change in an electric field, a magnetic field is produced.

8. It happens that the overall phase shift is zero.

9. It does not matter whether the magnet is moved in this case.

10. It makes no difference which unknown is selected [chosen].

11. Temperature determines in what direction the transfer of heat will take place.

12. Which equation we should use depends on what data we are given [know] in the problem.

13. It is now a well-known fact that all matter consists of tiny particles.

14. It has been found that the direction of an electric current is opposite to that of the flow of electrons.

II、

1. It is necessary to determine under what conditions this equation holds [applies; is valid; is true].

2. This device is just what we need.

3. Now we summarize what we have proved so far [up to now].

4. What a generator does is to change mechanical energy into electrical energy.

5. What this chapter describes [What is described in this chapter] is of great importance.

6. This magnetic force is what makes the electric motor run.

7. Matter is what can occupy space.

8. This is what happens in a transistor.

9. What we have discovered in this experiment is the entirely new realm of electrical phenomenon.

10. This direction is opposite to what has been assumed.

11. What is spoken of as absolute zero is the temperature 273ºC below zero.

12. Television and telephone communications are linking people to a global village, or what one writer calls the electronic city.

13. Magnitude, direction, and place of application are what we call the three elements of a force.

14. These numbers constitute what is known as the real number system.

15. After a chemical change, a substance is changed to something different from what it was.

16. In what follows, we acquaint ourselves with some basic concepts.

IV、

1. An *x*-band wave-guide test system is shown in Fig.7. [或：Fig. 7 shows …].

2. This method lowers the requirement for the hardware of a sample
network.

3. On the basis of the above analysis of the decomposition of the polynomial, a novel configuration results. [或：The above analysis of the decomposition of the polynomial results in a novel configuration.]

4. This can satisfy the system's input and output rates with as low a systolic frequency as possible.

5. This paper discusses the design guideline for and the structure of the system, with a deep inquiry into model testing.

6. Finally, an analysis of packet loss probability is made by computer simulation.

7. The sparse ratio of the resulting impedance matrix is as high as 40%.

8. The Qin Yong-brand whole milk powder is made from high-quality fresh milk, white sugar and trace elements needed by the human body by scientific methods and Denmark's advanced technology.

The Qin Yong-brand whole milk powder contains calcium, protein and varied vitamins, and it can be mixed with lukewarm sanitary drinking water into [或：… can be blended with lukewarm sanitary drinking water to produce] the best fresh milk. The product is truly a tonic suitable for both the old and the young. Taking it for a long time is beneficial [is of benefit] to [或：is good for] the development of the brain and the improvement of health.

If you find anything wrong with the product, please give us a complaint phone call [或：please let us know by phone].

Our telephone number is 029-3246788.

练习 11

I、

1. Most of the atomic mass is concentrated in the nucleus, which explains why the nucleus is almost stationary within the atom

2. Faraday was the great scientist who [that] discovered the phenomenon of electromagnetic induction.

3. This is the device which [that] is used to measure the parameter.

4. The meter (that [which]) we use to measure the voltage across a resistor is called a voltmeter.

5. The first thing that is to be done is to determine the pressure within this container.

6. Computers are the most efficient assistants (that) man has ever had.

7. In this case, anything that has been stored will be lost.

8. There is another kind of force (that) we need to consider.

9. Now this disease is no longer the serious problem (that) it once was.

10. The places where small computers can be used seem (to be) endless.

11. Radar can measure the time (that) it takes for the radio echo to return.

12. We must calculate the distance (that [through which]) the body is lifted.

13. The direction (that [in which]) a body moves is also very important.

14. It is necessary to determine the number of times (that [by which]) this amplifier amplifies signals.

15. All we need (to) do is (to) press this button.

16. All one can say is that an atom consists of still smaller particles.

17. I_1 is much larger than I_2, in which case I_2 can be neglected.

18. We equate these two ratios, from which the simplest formula follows [results].

19. The reason why [for which]this component is used here is quite clear.

20. It is necessary to determine the time when [at which] the *y*-component has decreased to zero.

21. We first discuss the waves whose frequencies [the frequencies of which] are constant.

22. Any radio-frequency component (that) there may be [that there may exist] in this circuit is filtered out by capacitor C.

23. We can find a few conditions, of which only two [only two of which] are necessary.

24. The curve the y-coordinate of each point on which is zero is just the *x*-axis.

II、

1. The point at which the circle cuts the axis of reals is where $\alpha = \omega$.

2. We can find the single force to which these two forces are equivalent.

3. The particular frequency at which $X_L = X_C$ is called the resonant frequency.

4. These vectors are not added (in) the way (in which [that]) numbers are added.

5. The force of gravity means the force with which the earth attracts a body.

6. The surface of a picture tube upon which the electrons produce the picture is called the screen.

7. In all resistances through which a current flows, electrical energy is converted into heat energy.

8. The product of a force and the time during which it acts is called impulse.

9. This resistor is the one across which the negative bias is developed.

10. A magnet can cause an electric current in a wire near which it is moved.

11. Any mechanical device by which heat is converted into work is called a heat engine.

12. The author would like to express thanks to the editors of the series of which this book is a part [to which this book belongs].

13. This is a parallelogram of which the two given vectors are sides.

14. The pressure is equal to the total force divided by the area over which it is exerted.

15. The two elements of which water consists are hydrogen and oxygen.

16. This depends on the efficiency with which electrons are produced.

17. These two laws are the foundation on which all other laws are built.

18. The substances in which there are many free electrons are conductors.

19. It is necessary to explain the reason for which this device is used here.

20. The temperature at which water freezes is generally 0°C.

III、

1. As we shall see, acids and bases play an important role in the functioning of life.

2. As the title indicates, this chapter will discuss nonlinear equations.

3. As the name shows, a fluid is a substance which flows readily.

4. As was discussed in the previous chapter, a transistor is a current-control element.

5. This waveform has a dc component, as will be explained later.

6. This single force produces the same effect as is produced by those forces together.

7. The sign of the charge does not affect the conclusion, as can be seen readily.

8. Now we are able to solve such differential equations as occur in physics.

9. This function can be accomplished by using the full adder as was described in the previous section.

10. Radio waves travel at the same speed as light.

11. Torricell's emptiness will appear on the upper part of the tube, or vacuum as we now call it.

12. These concepts enable us to understand a wide range of phenomena in electrostatics, or "static electricity," as it is called.

13. This revision resulted in the creation of high-speed mechanics, or as it is referred to, relativistic mechanics.

14. This current is, as predicted, very small,

15. First let us consider the simplest circuit as shown on page 2.

IV、

1. This is a slightly higher value than we predicted.

2. Many more problems are presented than need be given as homework assignments.

3. Nearly all amplifiers require more amplification than only one transistor can achieve.

4. This reactor can produce more fuel than it consumes.

5. Let us consider the case when the torque is zero.

6. We must determine the values of currents and voltages after the switch closes.

7. It is necessary to first find the limit as *c* approaches infinity.

8. During the ten years since this book was first published, significant changes have taken place [have been seen].

VI、

1. Even in this case these protocols can provide a limited number of users with the acceptable quality of voice service.

2. A comparison of this method with the MEI method shows that the third postulate in the MEI method is questionable.

3. This paper presents a method for an 8098 microcontroller to series-communicate with a 386 personal computer.

4. This paper deals mainly with the Wiener filtering of and the LMS algorithm for such signals.

5. The effect of equalizer parameters on equalization performance is analyzed in detail. [A detailed analysis is made of the effect of equalization parameters on equalization performance.]

6. Each receiver channel in Fig. 1 contains an RF amplifier, a mixer, an IF amplifier, an A/D converter, etc.

7. he larger the abnormal extent (is), the larger is the residual mismatch, with the curve going up.

8. A highland wild plant, JUEMA belongs to the rose family [JUEMA is a highland wild plant belonging to the rose family]. It contains vitamins and elements such as iron, magnesium, calcium, (and) zinc. Pharmacological study shows that taking it for a long time [a long-term intake] will prolong life, resist cancer and reduce weight. It is also a good gift for your relatives and friends.

练习 12

I、

1. Should anything abnormal happen, switch [turn] off the power supply at once [immediately].

2. If there were no [Without] gravitation, everything would fly off the earth into space.

3. If man made use of all the sunlight, he would have no need for coal or other fuels.

4. If this change were to be included [(should) be included] in the analysis, it would become extremely complex.

5. Discontinue should a skin reaction occur.

6. Had electronic computers not been used, it would have taken them a long time to solve this problem.

7. To pursue this development of molecular theory further would take us into the area of atomic and nuclear structure.

8. It is very important that all solutions (should) be checked in the original equation.

9. It is suggested that this design (should) be modified at once.

10. This requires that the transistor (should) be properly biased.

11. Without semiconductors, satellite communications would be impossible.

12. We could also have used Theorem (6) to derive the result.

13. It is quite essential that designers (should) have a practical knowledge of computers.

14. This comes from the necessity that the output (should) be stable.

15. The requirement that energy (should) be conserved must be satisfied.

16. A necessary condition is that the integration (should) be a solution of [to] Euler’s equation.

17. Their suggestion is that this point (should) be grounded.

18. This transmission line acts as if it were open-circuited.

19. It looked as if the answer to this problem had been wrong.

20. Everything here, be it a component or a device, is home-made.

21. Could a pin be drawn into a wire of the thickness of one atom, it would encircle the earth thousands of times.

22. The condition that $x - a$ (should) divide the numerator is that $x = a$ (should) be a root.

II、

1. It was this scientist who [that] discovered this phenomenon a century ago.

2. It is this conclusion with which we are concerned. [It is this conclusion

which [that] we are concerned with.]

3. This method does work.

4. Tungsten is the very metal used in electric lamps.

5. The speed with which sound waves move through a medium does depend on the properties of the medium.

6. It is not clear yet under what conditions it is that this formula can be used.

7. This property we call inertia.

8. Radio waves makes possible such things as broadcast and television.

IV、

1. The interactions between user and IN network may be different from what happens in the rotary POTS telephone set.

2. The author is engaged in the teaching of and the research on computer vision, image processing and recognition.

3. Let P and Q be two Boolean permutations of the same order, and then their composition is a new Boolean permutation.

4. Three algorithms are presented, which can remarkably reduce the time to raise the pen, thus raising the drawing efficiency.

5. The DTMF coder has found wide applications because of its very small error code rate and its reliability.

6. What this paper describes is of great help to communications engineers.

7. The minimum entropy technique for estimating the Doppler frequency rate is presented, which has the advantages over the classical techniques of high accuracy and a small amount of computation.

8. The Essence of Chicken & Cordyceps provides you with the best way to keep you fit […keep you in good health] in this fiercely competitive society in order to avoid your being eliminated.

Cordyceps is one of the unique tonics in China. Scientific research reveals that cordyceps contains various special amino acids. The Essence of Chicken & Cordyceps is manufactured from the first-class chicken and pure cordyceps powder with extra care. It is easy for users to absorb and digest. So this product is especially suitable for [beneficial to] elimination of debility and recovery from an illness because it facilitates the establishment of a balanced metabolism [because it can help to establish a balanced metabolism].

练习 13

I、

1. Implicit in the preceding statements is the principle of conservation of charge.

2. Also shown on this page is [On this page is also shown] the block diagram of a color television set.

3. Only under the matched condition will the maximum output result [will there be the maximum output].

4. By electromagnetic force is meant the potential difference across the battery when there is no flow of current.

5. In the neck of the glass envelope is located [put] a set of electrodes called “electron gun.”

6. In the table below are listed various parameters of familiar computers.

7. An element cannot be decomposed, nor can it be broken up by chemical methods.

8. Only when $x = 8$, does this equation hold [apply].

9. Of particular importance [Especially important] are the two concepts which follow.

10. Such a set we call the mathematical system.

11. Friction makes necessary a good lubrication system.

12. We take as a second example the case shown in Fig. 5.

13. Rarely does one know this function with precision.

14. Small as atoms are, electrons are still smaller.

15. This interrelationship between electric and magnetic fields makes possible such things as the electromagnet and the electric motor.

16. Not until 1818 was the diffraction of light interpreted [explained].

17. To the author it seems that the students are interested in practical applications.

18. By no means do electrons move from the positive terminal to the negative terminal.

II、

1. The meter is the standard for length, the gram the standard for weight.

2. The effect of air resistance is discussed in Chapter 15, and the decrease in acceleration with altitude in Chapter 17.

3. Port 1 is considered (as) the input, and port 2 the output.

4. The analysis of and the equations for this test set are the same as described in the preceding sections.

5. The publisher will be responsible for loss of and damage to the material.

6. It is necessary to determine the charge on and the voltage across this capacitor.

7. In this case, no standard is needed, but only a numerical convention.

8. The title of this paper is "Behavior of and Requirements for the Internet Firewalls."

9. This voltage is greater than or equal to 0.4 volt.

10. The cathode, when heated, emits electrons.

11. Every body, whether accelerated or not, is considered (to be) in equilibrium.

12. If necessary, the wire will be covered with some insulation.

13. The transistor has its materials arranged p-n-p, hence the name pnp transistor.

14. When these electromagnetic waves escape from the conductor into space, they are said to be radiated by the conductor, hence the name "radio waves."

III、

1. No image is formed of the object precisely at the focal point of a converging lens.

2. An initial analysis is made of the performance of the device.

3. The law is well known that to each action there is an equal and opposite reaction.

4. The magnetic field is the space around a magnet occupied by the magnetic lines of force.

5. This leads to the battery voltage in the model of 840 mV.

6. This graph shows the variation with frequency of the resistance of the resistor.

7. This is responsible for the direct return to the atmosphere of more than half the water that falls on the land.

8. The forward bias results in the injection into the depletion layer of the electrons from the conduction band of the N-type material.

9. The question now arises how these unknowns can be determined.

10. It is necessary to determine the effect on the device of changing the ambient temperature.

11. The assumption has been made that the pressure always remains constant during the test.

12. Cases often occur [arise] in which [where] the integration region varies with parameters.

V、

1. The simulation results show that both the schemes are easy to implement.

2. The model and algorithm proposed in this paper are to a certain degree [extent] superior in performance to the conventional BP algorithm.

3. We have obtained he result that the number of 2-edge self-complementary graphs with p vertexes is

$$a_p = 2 \ (S_p^{(2)}: 1, 3, 1, 3, \ldots)$$

4. A new technique for estimating the frequency deviation is proposed which gives a high accuracy and requires a small amount of computation.

5. Improvement of the accuracy of range alignment in ISAR imaging by using the super resolution technique

6. Research on and the realization of DTMF in a Cipher Coder

7. Analysis of the ability of a quartz flexibility accelerometer to resist bad environment

8. The product is made from high quality soybeans produced in northeast China, by using the most advanced facilities and high technology. The product contains various amino acids, unsaturated fatty acid, carbohydrate, calcium, phosphorus, iron, inorganic salts and varied vitamins. It is characterized by high protein, low fat, no cholesterol and pure, strong smell of soybeans. It does not contain any artificial synthetic additive. So it is the best fully [completely] natural nutritious drink.

练习 17

I、 David J. Minot attended the University of California, Berkeley, CA. from 1994 – 1998. He earned the BS degree in botany there in 1998, and the M. Eng. Degree in electrical engineering from the University of Toronto, Toronto, Ontario, Canada in 2000. Since 2004 he has been working towards the Ph.D. degree in computer science at the University of Pennsylvania, Philadelphia, PA, USA.

In 1998 he served as a teaching assistant at the University of California. From 2000 to 2001 he was with the Moore School of Electrical Engineering, University of Pennsylvania. His research interests concentrate on the development of software.