**Semiconductors**

**Match the words.**

1. semiconductor a) приемник

2. resistivity b) выпрямитель

3. insulator c) притягивать

4. receiver d) полупроводник

5. device e) усилитель

6. rectifier f) твердое тело

7. amplifier g) сопротивляемость

8. attract h) требовать

9. solid i) изолятор

10. require j) устройство

**Semiconductors**

Semiconductors are solids whose resistivity lies between those of electrical conduction and insulators. Semiconductors are used (используется) in computers, in radio and TV received, and in other electronic products.

Semiconductors devices perform many control function. They may be used as rectifiers, amplifiers, detectors, oscillators and switching elements. Some characteristics which make the semiconductors such as attractive member of the electronics family, are as follows.

1. Semiconductors are small and light in weight.

2. Semiconductors and solids. There is therefore little chance that element will vibrate. Element vibration in vacuum tubes was the cause of microphonies.

3. Semiconductors require little power and radiate less heat than tubes. They do not need warm up time and operate as soon as power is applied.

4. Semiconductors do not undergo the chemical deterioration which occurs in tube cathodes. The deterioration of tube cathodes eventually results in unacceptable tube performance (зд. Плохая работа электронной лампы.)

Silicon is material of which most semiconductor devices are presently constructed.

**Answer these questions.**

1. What are semiconductors?
2. What is the sphere of semiconductors usage?
3. What are the attractive features of semiconductors?
4. Where does the deterioration result in?
5. Do semiconductors require little or much power?

**Diodes**

**Correct the wrong statements.**

1. We can define electronics as the study of capacity of electricity in a vacuum, is gases and in semiconductors, and in liquids.
2. No vacuum tube diode has a cathode with a colder and a plate.
3. Positive voltage on the plate repels the electrons.
4. A diode permit current to flow in any direction.
5. Diodes are never used as rectifiers of alternating voltages, as detectors of radio signals, as meter of voltage.

**Make word combinations.**

1. vacuum
2. conduction
3. conducts
4. physical
5. switching
6. current
7. device
8. tube
9. of electricity
10. principles

**Types of Diodes**

We can define electronics as the study of conduction of electricity in a vacuum, in gases in semiconductors. The conduction of electricity in a vacuum, for example occurs tuber. Though in some vacuum tuber current flows from one element to the other though a gas.

Every vacuum tube diode has a cathode with a heater and a plate. When the circuit is completed (замкнута) the cathode emits electrons. Negative voltage on the cathode repels the electrons. Positive voltage on the plate attracts the electrons. The current flows though the tube.

If a negative voltage is applied to the plate current does not flow. Thus, a diode permits current to flow in only one direction. A semiconductors diode also conducts current in one direction, but the physical, principles, which permit it to do this are different. Diodes are used as rectifiers of alternating voltages, as detection of radio signals, as switching devices, etc (и т.д)

**A Diode**

**Answer the following questions in Russian. If you aren`t able read and translate the text first.**

1. What does a vacuum tube diode consist of ?
2. What kinds of diodes do you know ?
3. What are thermionic diodes?
4. What causes thermionic emission of electrons?
5. Where are valve diodes used?