**Тема:**  «Измерительные приборы. Виды измерительных приборов»

**Цель:** Повторить грамматический материал , продолжить изучать лексическую тему «электричество, оборудование электрика».

**Задачи:** Отработать навык работы (в т.ч. перевода) с профессиональной лексикой по теме «электричество», повторить тематический материал, актуализировать имеющиеся знания.

**Специальность:** 13.02.09 Монтаж эксплуатации линий электропередачи, 13.02.11 Техническая эксплуатация и обслуживание электрического и электромеханического оборудования (по отраслям)

1. **Learn the glossary**
2. **Read the text**
3. **Do the tasks**

**Neon-glow lamp testers**

***Provide a very convenient and compact device for determining if a circuit is live, for determining polarity of DC circuits, and for determining if a circuit is alternating or direct current.* A neon-tester for low voltage work is illustrated here: It consists of a very small neon lamp in series with a 200,000-Ohms protective resistance enclosed in a molded case. This tester is satisfactory for use on circuits of from 90 V dc or 60 V ac to 500 V ac or dc. With the test tips connected to a circuit, the presence of voltage within the above limits will be indicated by the glowing of the neon lamp. If both electrodes in the bulb glow, the voltage of the circuit is alternating. On direct current, only one electrode, the one connected to the negative side of the circuit, will glow.

With experience the voltage of the line can be determined approximately by the intensity of the glow. *In testing a circuit, it is best first to touch only one side of the line with one test tip, keeping the other test tip free.* A glow with this connection will indicate the presence of high voltage. The tester shown is well constructed for safety. The molded case has a voltage breakdown value of 25,000 V and the leads are insulated for 5000 V and provided with insulated test prods. The testers are also available, with the glow lamp in one of the tips, making it easier to see the voltage indication while looking at the tip placement. This arrangement also reduces the voltage reaching the leads. This tester is suitable for 80 to 600 V ac or dc.

**A noncontact voltage tester**

It provides both an audible and visual indication of voltage. *Since it works by induction it is only rated for use on AC circuits, in this case from 40 to 600 V.* It has the advantage that the insulation need not be disturbed or an exposed live part located in order for it to work; holding the tip on an energized conductor will make the tester respond. 

**Rules for use of ammeter and voltmeter**

Place the ammeter in series, always using a short-circuiting switch, where possible, as shown in to prevent injury to the instrument. Place the voltmeter in shunt*.* Put the + side of the instrument on the +side of the line. The correct use of an ammeter and a voltmeter to measure the current and the voltage suppliedto the motor. The short-circuiting switch *S* must be opened before the ammeter isread. All the current that enters the motor must then flow through the ammeter and beindicated. *The ammeter is of very low resistance (about 0.001 or 0.002 Ohm) and does not appreciably cut down the flow of current. The voltmeter is of very high resistance (about15,000 Ohm) and does not allow any appreciable current to flow through it.* Yet enough goesthrough the voltmeter to cause it to indicate the voltage across the terminal *AB* of themotor. Let us suppose the voltage across the motor to be 110; what would happen if anammeter of 0.002 Ohms resistance were by mistake placed across *AB*? (Remember thatOhm’s law is always in operation.)



Ammeter and voltmeter connections.

1. **Translate the lines given in italics**
2. **Choose the proper word from your glossary, fill in the gap, give the translation:**
3. It takes\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_2 or 3 million ruble. We hadn’t decided yet.
4. If tester’s lamp \_\_\_\_\_\_\_\_\_\_, it means the circuit is alive.
5. Why doesn’t TVset work? It is not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_to the grid
6. This stuff is weird! It has not even got wires! What kind of\_\_\_\_\_\_\_\_\_is this?
7. The neon glow lamp tester is broken, it has not got \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
8. You need to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_the ripple, so your device will work better
9. The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_are rusted, that is why current can’t reach the load
10. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_of this stuff is 1 Ohm
11. We need to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_the polarity of this object
12. **Find equivalents to the followings:**
13. Интенсивность свечения лампы
14. Поместите амперметр в ряд (цепь)
15. Амперметр имеет низкое сопротивление
16. Выключатель короткого замыкания
17. Напряжение цепи
18. Индикатор напряжения
19. Предотвратить поломку
20. Напряжение в проводах
21. **Translate into Russian, use your glossary:**
22. Мне нужен инструмент с литым корпусом
23. Вы должны уменьшить напряжение в цепи
24. Каковы верхние значения в вашем уравнении?
25. Я потерял то устройство с неоновыми лампочками
26. В этой цепи не все электроды рабочие
27. Я определил полярность устройства, что дальше делать?
28. Клеммы не должны быть расположены таким образом