**Exercise.1**

Ответьтенавопросы:

Do the charges neutralize each other if two equally and oppositely charged bodies are connected by a metallic conductor? **Yes, the charges neutralize each other if two equally and oppositely charged bodies are connected by a metallic conductor**

Is this neutralization accomplished by means of a flow of electrons or by any other mean? **Yes,this neutralization is accomplished by means of a flow of electrons or by any other mean**

In which direction electrons will flow in any continuous system of conductors?**In any continuous system of conductors, electrons will flow from the point of lowest potential to the point of highest potential**

How do we call the current if it flows continuously in one direction?**The current flowing in a circuit is described as direct current (DC) if it flows continuously in one direction**

How do we call the current if it flows alternately in either direction?**The current flowing in a circuit is described as alternating current (AC) if it flows alternately in either direction**

What is called as the electromotive force (emf) or voltage?**The potential difference in the circuit is called the electromotive force (emf) or voltage**

What quantity is usually given in terms of the ampere?**The rate of current flow is usually given in terms of the ampere, which corresponds to a flow of about 6 250 000 000 000 000 000 electrons per sec past any point of the circuit.**

How do we call the unit used for expressing the quantity of resistance?**The unit used for expressing the quantity of resistance is the ohm (V), which is defined as the amount of resistance that will limit the flow of current to 1 amp, in a circuit with a potential difference of 1 V.**

What relationship is known as Ohm's law?**The amount of resistance that will limit the flow of current to 1 amp, in a circuit with a potential difference of 1 V is known as Ohm's law**

What can be observed when an electric current flows through a wire?**When an electric current flows through a wire, two important effects can be observed: the temperature of the wire is raised, and a magnet or a compass needle placed near the wire will be deflected, tending to point in a direction perpendicular to the wire.**

In what unit of measurement the amount of energy expended in an electric circuit is expressed?**The amount of energy expended in an electric circuit is expressed in terms of the joule.**

**Exercise.2**

Найдите в тексте английские эквиваленты следующих слов и выражений:

Противоположено заряженный - **oppositelycharged**;  металлический проводник - **metallicconductor**; заряд - **charge**;  поток электронов - **a flowofelectrons**;  проводник - **conductor**;  электротехника - **electricalengineering**;  непрерывная система - **continuoussystem**;  низший потенциал - **lowestpotential**;  высший потенциал - **highestpotential**;  электрический ток - **electriccurrent**;  ампер - **ampere**;  соответствовать - **correspond**;  сопротивление - **resistance**;  обычные условия - **normalconditions**;  закон Ома - **Ohm'slaw**;  уравнение - **equation**;  формулировка - **formulation**;  температура проволоки-**thetemperatureofthewire**;  атомы - **atoms**;  измерять – **expressinterms**.

**Exercise.3**

Составьте предложения, используя данные слова и словосочетания:

Metallicconductor; connected; neutralize; charged; bodies. - **Iftwoequallyandoppositelychargedbodiesareconnectedby a metallicconductorsuchas a wire, thechargesneutralizeeachother.**

Electrical; engineering; current; electrical; opposite; positive; negative. -**In some branches of electrical engineering, electric current has been conventionally assumed to flow in the opposite direction, that is, from positive to negative**

Flow; second; rate; current. - **Thesecondistherateofcurrentflow**

Limits; resistance; current; necessarily. - **Underordinaryconditionsallsubstances, conductorsaswellasnonconductors, offersomeoppositiontotheflowofanelectriccurrent, andthisresistancenecessarilylimitsthecurrent.**

Law; canbestated; equation; Ohm’s. - **Ohm'slawmaybestatedintheformofthealgebraicequation E = I x R, inwhich E istheelectromotiveforceinvolts, I isthecurrentinamperes, and R istheresistanceinohms.**

Collide; atoms; electrons; conductor; energy. - **Asthecurrentflows, theelectronsmakingupthecurrentcollidewiththeatomsoftheconductorandgiveupenergy, whichappearsintheformofheat.**

Joule; energy; amount; expended; circuit; electric. - **Theamountofenergyexpendedinanelectriccircuitisexpressedintermsofthejoule.**

Needle; compass; placed; deflected; magnet. - **When an electric current flows through a wire, two important effects can be observed: the temperature of the wire is raised, and a magnet or a compass needle placed near the wire will be deflected, tending to point in a direction perpendicular to the wire**

**Exercise.4**

Переведите на английский язык следующие предложения:

Равные и противоположено заряженные тела соединены между собой металлическим проводником. - **Equallyandoppositelychargedbodiesareconnectedtoeachotherby a metalconductor.**

Потокэлектроновототрицательнозаряженноготелакположительнозаряженномутелу. - **The flow of electrons from a negatively charged body to a positively charged body.**

Потокэлектроновотточкиснизшимпотенциаломкточкесвысшимпотенциалом. - **The flow of electrons from a point with a lower potential to a point with a higher potential**.

Сопротивлениевсети ограничиваетвеличинутока. - **The resistance in the network limits the amount of current.**

ЗаконОмаможновыразитьввидеследующегоалгебраическогоуравнения. - **Ohm's law can be expressed as the following algebraic equation.**

Припрохожденииэлектрическоготокапопроводу, температурапроводаповышается. - **When an electric current passes through a wire, the temperature of the wire rises.**

Пристолкновенииэлектроновтокасатомамипроводникаобразуетсяэнергия. - **When the electrons of the current collide with the atoms of the conductor, energy is generated.**

Стрелкакомпасарасположенногорядомспроводомбудетотклонятьсявнаправленииперпендикулярномпроводу. - **The compass needle located next to the wire will deviate in the direction perpendicular to the wire**.