

Worksheet number 2

KEY TERMS: ideal voltage source, ideal current source, sources of direct voltage/direct current, types of batteries, photoelectric, thermoelectric, electrodynamic and electrochemical sources of energy

A. Complete the definition:

An ideal voltage source is a circuit element that maintains a prescribed current through its terminals regardless of the voltage across those terminals.

An ideal current source is a circuit element that maintains a prescribed voltage across its terminals regardless of the current flowing in those terminals

B. Match the halves of the sentences together to finish the sentences correctly:

1. An electrochemical cell generally a/ from one pole to the other. consists of two half-cells,
2. Electrochemical cells are usually classified b/ stores energy through a reversible electrochemical reaction
3. In galvanic cells, reactions occur spontaneously c/ each containing an electrode in contact at the electrode-electrolyte interfaces when with an electrolyte.
4. In electrolytic cells, reactions are forced to occur d/ which can be charged, discharged into a at the electrode-electrolyte interfaces load, and recharged many times
5. A rechargeable battery, storage battery, secondary cell, e/ the two electrodes are connected by a or accumulator is a type of electrical battery conductor such as metal wire
6. A non-rechargeable or primary battery is supplied fully charged, f/ by way of an external source of power connected to both electrodes
7. In any battery, an electrochemical reaction moves ions g/ and discarded once discharged.
8. The term "accumulator" is used as it accumulates and h/ as either galvanic or electrolytic.

C. types of batteries: silver – oxide, alkaline, lead-acid, nickel-cadmium, lithium – ion

1. In a/an.....battery, the anode is made of zinc powder and the cathode is composed of manganese dioxide.
2. A /an.....battery is a primary cell with a very high energy/weight ratio.
3. Their features, along with their low cost, makebattery attractive for use in motor vehicles to provide the high current.
4. One of the most practical applications forbatteries is in cordless power tools but their huge drawback is the memory effect.
- 5..... batteries, in contrast, are considered to have no memory effect.