

alternating current

electrical current that reverses direction periodically

armature

the laminated soft-iron core around which conducting coils are wrapped in an electrical motor or generator

back emf

the induced emf that opposes the applied emf in an electrical circuit such as a motor

brushes

conductors used to provide electrical contact to the moving parts of an electrical motor or generator, usually made of graphite

DC electrical motors

motors that convert electrical energy into mechanical energy, consisting of a rotor, field structure, commutator and brushes

direct current

a current that flows in one direction only

eddy currents

circular currents that are induced in a solid conductor (such as a metal sheet) when it is placed in a region of changing magnetic flux

electrical field

the region in which a charge experiences an electrical force

electromagnetic induction

the conversion of mechanical energy into electrical energy

Faraday's law

a law stating that the induced emf is proportional to the rate of change of magnetic flux through the circuit

field structure

the magnetic field of motors and generators; can be made from permanent magnets or electromagnets

galvanometers

sensitive current measuring devices that use the motor effect in their operation

generators

machines that convert electrical energy into mechanical energy, consisting of a rotor, field structure, slip rings and brushes

induced current

a type of current produced by the phenomenon of electromagnetic induction

induction heater

a type of modern cook-top that uses current-carrying coils placed under metal saucepans to induce eddy currents to heat metal pans for cooking

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Lenz's law

a law stating that the direction of the induced emf is such that the current it produces creates a magnetic field opposing the change that produced this emf

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lines of force

lines drawn to represent the direction and strength of electric, gravitational or magnetic fields

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