

## Physics - 10th Class Physics English Medium Chapter 15 Preparation

Q1. Explain application of electromagnet with the help of relay?

**Ans 1:** Relay; A relay is an electrical switch that opens and closes under the control of electrical circuit.  
FUNCTION: The relay is used to control a large current with the help of small current.

Q2. What is Faraday's law of electromagnetic induction.

**Ans 1:** The value of induced e.m.f in a circuit is directly proportional to the rate of change of number of magnetic lines of force passing through it.

Q3. Define mutual induction?

**Ans 1:** The phenomenon of production of induced current in one coil due to change of current in a neighboring coil is called mutual induction.

Q4. What is the solenoid?

**Ans 1:** A long coil of wire consisting of many loops is called solenoid.

Q5. Define Right hand rules.

**Ans 1:** "grasp a wire with your right hand such that your thumb pointed in the direction of conventional current. Then curling fingers of the hand will point out the direction of magnetic field"

Q6. What is the principle of walk-through metal detectors.

**Ans 1:** Walk through metal detectors are installed at air ports and other places for security purpose. These detectors detect metal weapons etc. Using the principle of electromagnetic induction.

Q7. State Lenz's law?

**Ans 1:** The direction of an induced current in a circuit is always such that it opposes the cause that produces it is called lenz's law.

Q8. What is the basis of MRI technique?

**Ans 1:** Weak ionic current in our body that travels along the nerve can produce the magnetic effect. This forms the basis of obtaining images of different parts of body. This is done using the technique called magnetic resonance imaging.

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Q9. Which device is used for converting electrical energy into mechanical energy?

**Ans 1:** Electric motor is a device which is used to convert electrical energy into mechanical energy.

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Q10. Define magnetic field strength.

**Ans 1:** The number of magnetic lines of forces passing through a surface area is called magnetic field strength.

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