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SUBJECT:- PHYSICS

CLASS:- XTH

REVISION:- 24/02/XXI

SUBJECT TEACHER:- MR. NEEL NIRANJAN

CHAPTER 2. (MAGNETISM) (BASED ON NCERT PATTERN)

(REVISION)

Question 1. Explain different ways to induce current in a coil.

Solution: Current can be induced in a coil either by moving it in a magnetic field or by changing the magnetic field around it. The induced current is found to be the highest when the direction of motion of the coil is at right angles to the magnetic field. The process, by which a changing magnetic field in a conductor induces a current in another conductor, is called electromagnetic induction.

Question 2. Which sources produce alternating current?

Solution: The sources which produce alternating current is a permanent magnet called the field magnet, armature, slip ring and carbon brushes. After every half rotation the polarity of the current in the respective arms changes. Such a current, Which changes direction after equal intervals of time, is called an alternating current.

Question 3. An electric oven of 2 KW power rating is operated in a domestic electric circuit (220 V) that has a current rating of 5 A. What result do you expect? Explain.

Solution: $V = 220 \text{ V}$, $I = 5 \text{ A}$

Power, $P = VI$

$P = 220 \times 5$

$P = 1100 \text{ W}$

Therefore, power $P = 1100 \text{ W} = 1.1 \text{ KW}$

Therefore, an electric oven of 2 KW power rating cannot be operated in a domestic electric circuit (220 V) that has a current rating of 5 A because electric oven has higher power than the power of the electric circuit.