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SUBJECT:- PHYSICS

CLASS:- XTH

REVISION:- 23/02/XXI

SUBJECT TEACHER:- MR. NEEL NIRANJAN

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

(REVISION)

Question 1. Two circular coils A and B are placed closed to each other. If the current in the coil A is changed, will some current be induced in the coil B ? Give reason.

Answer:- Yes, some current will be induced in the coil B. When the current in coil A is changed, some current is induced in the coil B. Due to change in current in coil A, the magnetic field lines linked with coil A and with coil B get changed. This sets up induced current in coil B.

Question 2. State the rule to determine the direction of a (i) magnetic field produced around a straight conductor-carrying current (it) force experienced by a current-carrying straight conductor placed in a magnetic field which is perpendicular to it, and (in) current induced in a coil due to its rotation in a magnetic field.

Answer:-

(i) Right hand thumb rule : If the current carrying conductor is held in the right hand such that the thumb points in the direction of the current, then the direction of the curl of the fingers will give the direction of the magnetic field.

(ii) Fleming's left hand rule : Stretch the forefinger, the central finger and the thumb of the left hand mutually perpendicular to each other. If the forefinger points in the direction of the magnetic field, the middle finger in the direction of current, then the thumb points in the direction of force in the conductor.

(iii) Fleming's right hand rule : Stretch the thumb, forefinger and the central finger of the right hand mutually perpendicular to each other. If the forefinger points in the direction of magnetic field, thumb in the direction of motion of the conductor, then the middle finger points in the direction of current induced in the conductor.