

BRAIN INTERNATIONAL SCHOOL

Physics Assignment

Class XII

July '18

- 1) What is magnetic flux. Also define electromagnetic induction.
- 2) State the Faraday's law of electromagnetic induction.
- 3) State Lenz's law.
- 4) A conducting circular loop is placed in a uniform transverse magnetic field of 0.2T. Somehow the radius of the loop begin to decrease at a constant rate of 1mm/sec. Find the emf induced in the loop at the instant when radius is 2 cm.
- 5) What is motional emf. Deduce an expression for the emf induced across the ends of a conductor moving in a perpendicular magnetic field.
- 6) What are eddy currents. Describe some of the important application of eddy currents.
- 7) Derive expression for the mutual inductance of the two long coaxial solenoid. State the factors on which mutual induction depends .
- 8) A bulb of resistance of 10 ohm, connected to an inductor of inductance L is in series with an ac source marked 100v,50Hz. If the phase angle between the voltage and current is 45 degree. Calculate value of L.
- 9) Find expression of energy stored in inductor.
- 10) Find average power associated with an inductor.
- 11) Explain working , construction and principle of a transformer.
- 12) Find the expression of average power in ac.
- 13) Find expression of current in an ac circuit containing only inductor and Resistor.
- 14) Explain the construction ,principle and working of an ac generator.