# Worksheet: Electromagnetic Induction

IB · Class 12 · Physics · 5 questions · 12 marks

Name: _____ Date: _____ Score: _____ / 12

**Q1.** A 0.1 m^2 loop perpendicular to a 0.5 T field has the field reduced to zero in 0.01 s. Find the induced emf. *[2 marks]*

**Q2.** A 10 mH inductor's current changes from 5 A to 1 A in 0.02 s. Find the induced emf. *[2 marks]*

**Q3.** A solenoid of length 0.5 m, area 4e-4 m^2, and 1000 turns. Find its self-inductance. *[3 marks]*

**Q4.** An AC generator has 200 turns, area 0.05 m^2, field 0.2 T, rotating at 50 rad/s. Find peak and rms emf. *[3 marks]*

**Q5.** Two coils have M = 0.05 H. If the primary current changes from 4 A to 1 A in 0.01 s, find the secondary emf. *[2 marks]*