

Worksheet: Electromagnetic Induction

West Bengal State Board · 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 $4 \times 10^{-4} \text{ m}^2$, 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 $M = 0.05 \text{ H}$. If the primary current changes from 4 A to 1 A in 0.01 s , find the secondary emf. [2 marks]
