

# Electro-magnetism

**Spoken Tutorial Project**

**<http://spoken-tutorial.org>**

**National Mission on Education through ICT**

**<http://sakshat.ac.in>**

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# Learning Objectives

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- **Electro-magnetic induction**



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- **Mutual induction of coils**



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- **Electro-magnetic induction**
- **Mutual induction of coils**
- **Voltage induced by a rotating magnet**
- **Resonance of driven pendulum**
- **Show circuit diagrams**





# System Requirement

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- **ExpEYES v 3.1.0**



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- **ExpEYES v 3.1.0**
- **Ubuntu Linux OS v 14.10**



# Pre-requisites



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- **ExpEYES Junior interface**



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- **ExpEYES Junior** interface
- For relevant tutorials, visit our website  
[www.spoken-tutorial.org](http://www.spoken-tutorial.org)



# Electromagnetic Induction



# Electromagnetic Induction

- **Demonstration of Electromagnetic Induction**





# Mutual Induction

# Mutual Induction

- **Demonstrate mutual induction of two coils**



# Induced Voltage



# Induced Voltage

- **Demonstrate voltage induced by a rotating magnet using a DC motor and coils**



# Driven Pendulum



# Driven Pendulum

- If a pendulum oscillates with an **induced magnetic field** it is called a driven pendulum



# Summary

**We have learnt to demonstrate:**

- **Electromagnetic induction**
- **Mutual induction of coils**
- **Voltage induced by a rotating magnet**
- **Resonance of driven pendulum**
- **Show circuit diagrams**



# Assignment

## Demonstrate

- 1 How to make an electromagnet.
- 2 Mutual induction of a single coil with a magnet
- 3 Show circuit diagrams





# About the Spoken Tutorial Project

- Watch the video available at [http://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](http://spoken-tutorial.org/What_is_a_Spoken_Tutorial)
- It summarises the Spoken Tutorial project



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- If you do not have good bandwidth, you can download and watch it



# Spoken Tutorial Workshops

## The Spoken Tutorial Project Team

- Conducts workshops using spoken tutorials
- Gives certificates to those who pass an online test
- For more details, please write to [contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)



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- More information on this Mission is available at <http://spoken-tutorial.org/NMEICT-Intro>

