

EXPERT DETAILS

DR. RAHUL MUKHERJEE
ASSISTANT PROFESSOR
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COURSE IS FOR

B.TECH
B.Sc.
DIPLOMA
ITI
HIGHER SECONDARY (Class XI & XII)

REGISTRATION FEES

Rs. 200/-

COURSE HIGHLIGHTS :

- *Developing fundamental concepts of Physics*
- *Learning Physics through hands-on experiment*
- *Familiarity with common laboratory equipment*
- *Gaining knowledge in various experimental techniques*
- *Encouraging creativity and problem-solving skills*
- *Finding connectivity between Physics and Engineering*
- *Skill enhancing for competitive exams*

CONTACT DETAILS :

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SHORT TERM CERTIFICATE COURSE

EXPERIMENTAL PHYSICS



**SANAKA EDUCATIONAL
TRUST'S GROUP
OF INSTITUTIONS**

DURGAPUR

A UNIT OF SANAKA EDUCATIONAL TRUST

MALANDIGHI, DURGAPUR - 713212

REGISTRATION

Scan the QR Code for Registration



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DEPARTMENT OF
BASIC SCIENCE AND HUMANITIES

Day 1

Inaugural Session

Lab Safety and Equipment: Introduction to lab safety protocols and familiarization with essential lab equipment.

Experiment - 1 :

- Hands-on practice with Vernier Calipers, Screw Gauge
- Learning how to calculate least count, vernier constant.
- Determination of thickness and volume of a given a geometrical body.

Day 2

Lecture on “Basic Electricity and Magnetism” focusing on its applications.

- Knowledge on electric field and charges; Coulomb’s Law
- Ohm’s law & Kirchhoff’s law
- Electric circuits and its components
- AC & DC current and their inter-conversion
- Magnetic field and its effects
- Magnetic Materials- Diamagnetic, Paramagnetic, Ferromagnetic, Hysteresis Loop

Experiment - 2 :

Determining the resistance of a wire and verifying Ohm’s law.

Day 3

Lecture on “Elastic Properties of Materials”

- Definition of elasticity
- Stress & Strain
- Hooke’s Law
- Elastic Moduli - Young Modulus, Shear Modulus, Bulk Modulus
- Poisson’s ratio
- Limitations of elastic behaviour
- Applications of elastic properties of a material

Experiment - 3 :

Evaluating the Young Modulus of an Iron Bar and Rigidity Modulus of a wire.

Day 4

Lecture on “Wave Optics and Laser”

- What is light?
- Particle and wave nature of light
- Key concepts on Interference, Diffraction, and Polarisation of light with examples
- What is laser and its working principle
- Applications of laser

Experiment - 4 :

Finding an unknown wavelength of light using laser diffraction technique.

Day 5

Quiz based on the acquired knowledge from the workshop.

Valedictory session.