SAMARTH MAHAVIDYALAY LAKHANI
DEPARTMENT OF PHYSICS

Knowledge Outcomes

After completing B.Sc. (Physics) Programme students will be able to:

1. Student apply the basic principles of Physics to the events occurring around us and also in the world.
2. Try to find out or analyze scientific reasoning for various things.
3. Develop skills of critical thinking and to apply the scientific methods to physics concepts, laboratory experiments.
4. Handle standard and advance laboratory equipment, modern instrumentation and classical techniques to carry out experiments.

Skill Outcomes

After completing B.Sc. (Physics) Programme students will be able to:

1. Use of computers and various software and programming skills
2. apply the knowledge to develop the sustainable and eco-friendly technology for pollutionfree environment
3. collaborate effectively on team-oriented projects in the field of Physics
4. Communicate scientific information in a clear and concise manner both orally and inwriting or through audio video presentations

Generic outcomes

Students will

1. Develop ability to work in group
2. Develop capacity of critical reasoning, judgment and communication skills.
3. Develop abilities for logical thinking

Programme Specific Outcomes

PSO1: Students get acquainted with techniques which are useful in industry.
PSO2: Students get conceptual knowledge of entrepreneurships through the co-curricularactivities
PSO3: learn the organizational skills and working in group.
PSO4: Students will be well versed with use of computers

SAMARTH MAHAVIDYALAY LAKHANI

SUBJECT: PHYSICS B.SC. I year

SEMESTER - I

PAPER- I (PROPERTIES OF MATTER AND MECHANICS)

OUTCOMES:

1. Students gain knowledge and skill in elasticity, viscosity and surface tension
2. They analyze Newtonian mechanics and dynamics
3. They gain the knowledge to solve problems based on above properties to strengthen their basics

B.SC. –I year

SEMESTER - I

PAPER- II (Electrostatics, Time varying fields & Electric Currents)

OUTCOMES:

1. Students gain knowledge of electrostatic and dielectrics

They gain knowledge of time varying field transformer and a.c. circuits

B.SC. –I SEMESTER - I

PAPER- III PHYSICS PRACTICAL

Sem 1

OUTCOMES:

1. Students develop experimental skill in elasticity, viscosity, surface tension, electrostatics, and various a.c. circuits
2. They analyze experimental limitations and precautions
3. They become skillful to design and perform experiments with good accuracy.
4. Practical knowledge of experiment provide opportunities for scientific study.

B.SC. –I year

SEMESTER - II

PAPER- II (GRAVITATION, ASTROPHYSICS, MAGNETISM AND MAGNETO-STATICS)

OUTCOMES:

1. Students gain knowledge of gravitations and astrophysics
2. They gain knowledge of magnetism and magnetostatic

B.SC. –I year

SEMESTER - II

PAPER- III PHYSICS PRACTICAL

OUTCOMES:

1. Students develop experimental skills in gravitations, astrophysics, magnetism and magnetostatics
2. They analyze experimental limitations and precautions
3. They become skillful to design and perform experiments with good accuracy

B.SC. –II year

SEMESTER - III

PAPER- II (PHYSICAL OPTICS AND ELECTROMAGNETIC WAVES)

OUTCOMES:

1. Students gain knowledge of interference, diffraction and polarization
2. They gain knowledge of e.m. wave.
3. They gain the knowledge of optical phenomenon.

B.SC. –II year

SEMESTER - III

PAPER- III PHYSICS PRACTICAL

OUTCOMES:

1. Students develop experimental skills in of acoustics, rectifiers, interference, diffraction and polarization
2. They analyze experimental limitations and precautions
3. They become skillful to design and perform experiments with good accuracy.

B.SC. –II year
SEMESTER - IV
PAPER- 1 (SOLID STATE PHYSICS, X-RAY AND LASER)

OUTCOMES:

1. Students gain knowledge of solid-state physics
2. They understand the design, principle and working of LASER
3. Apply the knowledge to solve problems based on above properties to strengthen their basics

B.SC. –II year
SEMESTER - IV
PAPER-2 (SOLID STATE ELECTRONICS, AND MOLECULAR PHYSICS)

OUTCOMES:

1. Students gain knowledge of solid-state electronics
2. They gain knowledge of molecular spectroscopy
3. They gain the knowledge to solve problems based on above properties to strengthen their concepts

B.SC. –II year
SEMESTER - IV
PAPER- III PHYSICS PRACTICAL

OUTCOMES:

1. Students develop experimental skills in of cell structure and applications of LASER and various solid state electronic devices.
2. They analyze experimental limitations and precautions.

1.

B.SC. –III year
SEMESTER - V
PAPER-1 (ATOMIC PHYSICS, FREE ELECTRON THEORY AND STATISTICAL PHYSICS)

OUTCOMES:

1. Students gain knowledge of atomic physics and free electron theory
2. They understand the basics of statistical physics
3. They gain the knowledge to solve problems based on above properties to strengthen their basics.

B.SC. –III year
SEMESTER - V
PAPER-2 (QUANTUM MECHANICS, NANOMATERIALS AND NANOTECHNOLOGY)

OUTCOMES:

1. Students gain knowledge of quantum mechanics
2. They gain knowledge of nanotechnology
3. Apply the knowledge to solve problems based on above properties to strengthen their concepts

B.SC. –III year
SEMESTER - V
PAPER- III PHYSICS PRACTICAL

OUTCOMES:

1. Students develop experimental skills in photon related experiments and atomic spectra
2. They analyze experimental limitations and precautions
3. They become skillful to design and perform experiments with good accuracy

B.SC. –III year
SEMESTER – VI

PAPER-I (RELATIVITY, NUCLEAR PHYSICS AND BIO PHYSICS)

OUTCOMES:

1. Students gain knowledge of relativity and nuclear physics

They understand the basics of biophysics

B.SC. –III year
SEMESTER – VI

PAPER-II (ELECTRONICS, FIBER OPTICS, COMMUNICATION AND DIGITAL ELECTRONICS)

OUTCOMES:

1. Students gain knowledge of amplifiers and fiber optics
2. They gain knowledge of digital and communication electronics.

B.SC. –III year
SEMESTER - VI
PAPER-III.PHYSICS PRACTICAL

OUTCOMES:

1. Students develop experimental skills in amplifiers, fiber optics, digital circuits and communication devices
2. They analyze experimental limitations and precautions
3. They become skillful to design and perform experiments with good accuracy

Off. Principal
Samartha Mahavidyalaya,
Lakhani, Distt. Bhandara