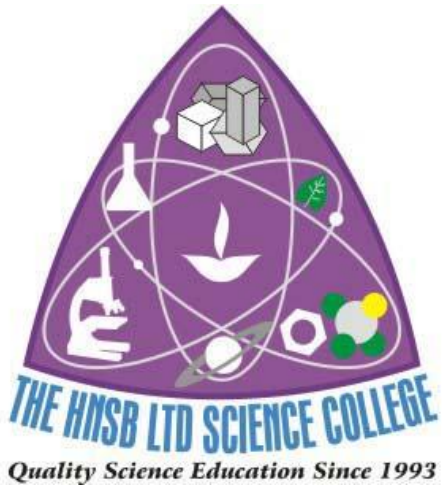
# Program Educational Objectives (PEOs), Program Outcomes (POs) & Program Specific Outcomes (PSOs)

(2023-2024Batch)

(B.Sc.Sem.-2)




## THE DEPARTMENT OF PHYSICS

THE H. N. S. B. LTD. SCIENCE COLLEGE
N.H. – 48, MOTIPURA,
HIMATNAGAR (S.K.)
GUJARAT (383001)
www.physicshmt.wordpress.com

## Vision:-

**The Department of Physics strives to provide an intellectual environment that fosters the search for the new knowledge in highly dynamic techno -world through its quality education.**

## Mission:-

**The Department focus is on the comprehensive, interdisciplinary teaching in applications of Physic, so as to enable learning and applying new technique in dynamic techno –world as the field evolves.**

## Program Educational Objectives ( PEOs )

***The graduate will***

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| **PEO-1** | Graduates will develop the skills to handle new techniques applied in dynamic techno-world where they have to serve themselves. |
| **PEO-2** | Graduate will use their course as a training ground to develop their positive attitude, skills which will enable them to become a multi facet personality shining in any chosen field. |
| **PEO-3** | Graduate will generate the creativity and acquire the knowledge to solve the complex problems due to practical education. |
| **PEO-4** | Graduatedevelop teaching skills, subject knowledge in the course of their study which will help them to shine in various field including education. |

## Program Outcomes(POs)

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| **PO-1** | Acquireability to understand the complex technique applied in various devices. |
| **PO-2** | Develop skill to think critically on abstract concept of Physics and Electronics. |
| **PO-3** | Acquire the ability to think independently for lifelong learning. |
| **PO-4** | Formulate and develops scientific argument in logical manner |
| **PO-5** | Acquire knowledge to design and executing of the experiment. |

## Program Specific Outcomes(PSOs)

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| **PSO-1** | According to Guideline of NEP 2020, that curriculum, course content and assessment of scholastic achievements play important roles in shaping education. |
| **PSO-2** | The view that assessment should support and encourage the broad instructional goals such as basic knowledge of the discipline of Physics including phenomenology, theories and techniques, concepts and general principles. |
| **PSO-3** | This should also support the ability to ask subjective questions and to obtain its solutions by use of qualitative and quantitative reasoning and by experimental investigation. |
| **PSO-4** | With this in mind, we aim to provide a firm foundation in every aspect of Physics ranging from a broad spectrum of modern trends in Physics to experimental, computational and mathematical skills of students. |

# Course Outcomes (COs)

| Course | Outcomes (Cos) |
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| **Major Discipline specific course(Theory)**<br>**Paper Name**: Electrostatics, Classical Mechanics, Electricity and Optics<br>**Paper Code**:SC23MJDSCPHY201 | After the successful completion of the course students will be able to<br>• Understands basics concepts of electrostatics. Learns how to determine the charge of an electron.<br>• Learns the concepts of Simple Harmonic Oscillations and combination of SHM.<br>• Understands the concepts of Damped & Forced Oscillations and its applications<br>• Learns basic concepts of DC Circuits, its functioning and principles of Network analysis. Also<br>apply theorems to construct and solve electrical circuits.<br>• Learns the the knowledge of various type of Aberration and Interference<br>• Get sufficient knowledge of Newton'S ring experiments and determine wavelength |
| **Minor Discipline specific course(Theory)**<br>**Paper Name**: Electrostatics, Classical Mechanics<br>**Paper Code**:SC23MIDSCPHY202 | **Course Outcome:**<br>After the successful completion of the course students will be able to<br>• Understands basics concepts of electrostatics. Learns how to determine the charge of an electron.<br>• Learns the concepts of Simple Harmonic Oscillations and combination of SHM.<br>• Understands the concepts of Damped & Forced Oscillations and its applications. |
| **Inter/Multi Discipline specific course(Theory)**<br>**Paper Name**: Electricity and Optics<br>**Paper Code**:SC23MDSCPHY203 | • Learns basic concepts of DC Circuits, its functioning and principles of Network analysis. Also<br>apply theorems to construct and solve electrical circuits.<br>• Learns the the knowledge of various type of Aberration and Interference<br>• Get sufficient knowledge of Newton'S ring experiments and determine wavelength |
| **Practical**<br>Major Discipline Core Course(MJDSCP)-SC23MJDSC P PHY201<br>Minor Discipline Core Course(MIDSCP)-SC23MIDSC P PHY202<br>Inter- Discipline Core Course(MDCP)-SC23MDSC P PHY203 | By the end of the course, the students will be able to understand.<br>• The basic principles of Physics related to their courses in the practical way.<br>• The operational details of spectrometer, electronic circuits etc.<br>• The experimental design aspects to determine various properties of like gravity, quality factor, Refractive index, determination of Cauchy's Constants, analysis of spectra, Analysis of error, determine value of unknown frequency etc.<br>• The process to analyze the observations and |

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| | infer the outcome of the experiments.<br>• How to analyze the experimental data and graphical analysis. |
| **SKILL ENHANCEMENT COURSE (Theory)**<br>**Paper Name**: Electronic Circuit Elements and Energy Sources<br>**Paper Code:** SC23SECPHY206<br>**Paper Name** : Measurement Systems<br>**Paper Code**: SC23SECPHY207 | At the end of the course students will able to<br>• Understand the basic knowledge of working of various instruments and its application.<br>• Learns the construction, working process and use of various measuring instruments.<br>• Will get sufficient knowledge of Galvanometer and determine various scientific parameters. |