

# **DEPARTMENT OF PHYSICS**

## **PROGRAMME SPECIFIC OUTCOME** **PROGRAMME OUTCOME AND COURSE OUTCOME**

### **Programme Outcomes**

<b>POs</b>	<b>Programme Outcomes</b>
<b>1.</b>	To learn the basic philosophy of science.
<b>2.</b>	To understand basic concepts of science subjects like physics, chemistry, mathematics, botany and Zoology.
<b>3.</b>	To adopt different measurement techniques in science.
<b>4.</b>	To develop the ability of innovation in science.
<b>5.</b>	To make awareness about the environment and its sustainability among the students.
<b>6.</b>	Willingness to take up responsibility in study and work confidence in his/her capabilities capacity to work effectively in a team motivation for learning and experimentation.
<b>7.</b>	Use and apply professional software for scientific data analysis and presentation.
<b>8.</b>	Respond effectively to unfamiliar problems in scientific contexts. Capable of oral and written scientific communication, and will prove that they can think critically and work independently.
<b>9.</b>	To recognize the need and have the preparation and ability to engage in independent and life-long learning
<b>10.</b>	It helps to gain knowledge about research methodologies and skills of problemsolving protocols.

## Programme Specific Outcomes

PSOs	Programme Specific Outcomes
1.	To learn and understand different theories in the physics.
2.	To strengthen the students with experimental techniques in physics.
3.	Use and apply professional software for scientific data analysis and presentation.
4.	Apply and demonstrate knowledge of concepts of physics, to analyze a variety of physical phenomena.
5.	Respond effectively to unfamiliar problems in scientific contexts. Capable of oral and written scientific communication, and will prove that they can think critically and work independently.
6.	To recognize the need and have the preparation and ability to engage in independent and life-long learning
7.	It helps to gain knowledge about research methodologies and skills of problemsolving protocols.
8.	To motivate the student for deep and micro study in the subject of physics.
9.	The study of kinetics of Chemical reactions.
10.	To make awareness about the environment and its sustainability among the students.

# Course Outcome

## Semester I

**MAJOR-I: PHYS1011: MATHEMATICAL PHYSICS-I (Credits: Theory-03, Practical - 01)**  
**F.M. = 75 (Theory – 40, Practical – 20, Internal Assessment –15)**

**COURSE OUTCOME:** On completion of this course, the student must be able to perform different mathematical operations like calculus and vector operations which are extremely essential to study theoretical and experimental physics.

**MINOR-I: PHYS1021: MATHEMATICAL PHYSICS-I (Credits: Theory - 03, Practical - 01)**  
**F.M. = 75 (Theory - 40, Practical - 20, Internal Assessment - 15)**

**COURSE OUTCOME:** On completion of this course, the student must be able to perform different mathematical operations like calculus and vector operations which are extremely essential to study theoretical and experimental physics.

**MULTI-DISCIPLINARY-1: PHYS1031: CNCEPTS OF PHYSICS 1 (Credits: 03)**  
**F.M. = 50 (Theory- 40, Internal Assessment – 10)**

**COURSE OUTCOME:** Students will develop the problem-solving capability and also learn the applications of Newtonian mechanics in daily life.

**SEC-1:PHYS1051: RENEWABLE ENERGY AND ENERGY HARVESTING (Credits: 03)**  
**F.M. = 50 (Theory - 40, Internal Assessment - 10)**

**COURSE OUTCOME:** The students are expected to learn not only the theories of the renewable sources of energy, but also to have hands-on experiences on them wherever possible.

## Semester II

**MAJOR II: PHYS2011: MECHANICS (Credits: Theory - 03, Practical - 01)**

**F.M. = 75 (Theory- 40, Practical – 20, Internal Assessment –15)**

**COURSE OUTCOME:** This course in Mechanics serves as the foundation for further progress towards the study of physics at graduate or post-graduate level. Upon completion of the course, the student will be able to apply Newton's laws of motion to different force fields for a single particle and for a system of particles.

**MINOR II : PHYS2021: MECHANICS (Credits: Theory - 03, Practical - 01) F.M. = 75**

**(Theory - 40, Practical – 20, Internal Assessment –15)**

**COURSE OUTCOME:** This course in Mechanics serves as the foundation for further progress towards the study of physics at graduate or post-graduate level. Upon completion of the course, the student will be able to apply Newton's laws of motion to different force fields for a single particle and for a system of particles.

**MULTI-DISCIPLINARY-2: PHYS2031 CNCEPTS OF PHYSICS 2 (Credits: 03) F.M.= 50**

**(Theory-40, Internal Assessment–10)**

**COURSE OUTCOME:** Students will develop the problem-solving capability and also learn the applications of Newtonian mechanics in daily life.

**SEC-2: PHYS2051: ELECTRICAL CIRCUITS AND NETWORK SKILLS (Credits: 03)**

**F.M.= 50 (Theory - 40, Internal Assessment - 10)**

**COURSE OUTCOME:** After the completion of the course the student will acquire necessary skills/ hands on experience /working knowledge on Multimeter, voltmeters, ammeters, electric circuit elements, dc power sources. With the knowledge of basic electronics a student can able to detect troubleshoot and repair some of the electronic instruments used in our daily life