Course Outcomes:

First Year B.Sc. Physics

1. **Course Name: Mechanics (Sem 1, Paper 1)**

After successful completion of course, students will be able to

CO1: Articulate and describe relative motion,inertial and non-inertial reference frames.

CO2: Apply the work energy relationship to simple physical situations.

CO3: Improve the ability to use the principles of theory of elasticity in Physics problems.

CO4: Corrrelate the property of surface tension with different natural phenomena.

CO5: To ideantify the relevant parameters that govern a fluid system and use dimensional analysis to ideantify the fundamental variables that define flow.

2. Course Name: Physics Principles And Applications (Sem 1, Paper 2)

After successful completion of course, student is expected to

CO1: Know about different atom model and will be able to differentiate different atomic systems.

CO2: Explain rotational, vibrational, electronic and Raman spectra of molecule.

CO3: Understand the theory and applications of emission, absorption, scattering of light from atoms and molecules.

CO4: To study the generation of electromagnetic radiations.

3. Course Name: Heat And Thermodynamics (Sem 2, Paper 1)

After successful completion of course, students will be able to

CO1: Understand and correctly use thermodynamic terminology.

CO2: Define the concepts of heat,work and energy.

CO3: Explain fundamental thermodynamic properties.

CO4: Derive and discuss the first law of thermodynamics.

CO5: Analyze basic thermodynamic cycles.

4. Course Name: Elecromagnetics (Sem 2, Paper 2)

After successful completion of course, student is expected to

CO1: Describe and understand the basic concepts of electricity and magnetism such as potential and field.

CO2: Understand the relationship between electric and magnetic fields.

CO3: Calculate the electrostatic and magnetic fields produced by static and moving charges in variety of simple configurations.

CO4: Understand to the broad outlook and appreciation of the contribution of electromagnetics to the fields of electrical, computer , and communication engineering.

5. Physics Practical

After successful completion of course, student is expected to

CO1. To demonstrate their practical skills.

CO2: To understand and practice the skills while doing Physics practicals.

CO3: To understand the use of apparatus and their use without fear.

CO4: To correlate their Physics theory concepts through practical.

CO5: Understand the concept of error and their estimation.

Second Year B.Sc. in Physics

1. Course Name: Mathematical Methods In Physics (PH211) (Sem 1, Paper 1)

On successful completion of course, student is expected to

CO1: Understand the basic mathematical concepts and applications of them in physical situations.

CO2: Understand the complex and vector algebra usefulness in Physics courses.

CO3: Understand concept of partial differentiation and role of partial differential equations in Physics.

CO4: Understand singular points of differential equation.

CO5: Apply skills of mathematical operators on particular problems.

2. Course Name: Electronics (PH212) (Sem 1, Paper 2)

After successful completion of course, students will be able to

CO1: Apply laws of electrical circuits to different circuits.

CO2: Understand the relations in electricity.

CO3: Understand the properties and working of transistors.

CO4: Understand the functions of operational amplifiers.

CO5: Design circuits using transistors and operational amplifiers.

CO6: Understand the Boolean Algebra and logic Circuits.

3. Course Name: Oscillations,Waves And Sound (PH221)(Sem 2,Paper 1)

On completion of course, the learner will be able to

CO1: Undrerstand the Physics and Mathematics of oscillations.

CO2: Solve the equation of motion for simple harmonic , damped, and forced oscillators.

CO3: Describe the oscillatory motion with graphs and equations.

CO4: Solve problems relating to undamped, damped and forced oscillators and superposition of oscilators.

CO5: Explain Doppler Effect, and predict in qualitative terms the frequency change.

CO6: Explain in qualitative terms how frequency ,amplitude,and wave shape affect the pitch, intensity, and quality of tones produced by musical instruments.

4. Course Name: Optics (PH 222) (Sem 2 , Paper 2)

This course will enable you to

CO1: Acquire the basic concepts of wave optics.

CO2: Describe how light can constructively and destructively interfere.

CO3: Explain why a light beam spreads out after passing through an aperture.

CO4: Understand optical phenomena in terms of wave models.

CO5: Be familiar with a range of equipment used in modern Physics.

5. Physics Practical (PH223)

After successful completion of course, students will be able to

CO1: Use various instruments and equipments.

CO2: Design experiments to test a hypothesis and determine the value of an unknown quantity.

CO3: Investigate the theoretical background to the experiment.

CO4: Set up experimental equipments to implement an experimental approach.

CO5: Analyse data , plot appropriate graphs and reach conclusions from data analysis.