B.Sc.-PHYSICS

Semester-1

MECHANICS AND OSCILLATIONS

Course Objectives:

- vector analysis, a branch of mathematics that deals with quantities that have both magnitude and direction.
- Mechanics is the branch of Physics dealing with the study of motion when subjected to forces or displacements, and the subsequent effects of the bodies on their environment.
- Oscillation is defined as the process of repeating variations of any quantity or measure about its equilibrium value in time

Course Outcomes:

- Understand the difference between a vector and a scalar use vector notation ⇀ Add and subtract vectors and use vector diagrams.
- Quantum mechanics is a fundamental theory in physics that provides a description of the physical properties of nature at the scale of atoms and subatomic ...
- Waves and oscillations: Harmonic motion gives the knowledge of composition of two simple harmonic motion and the construction of Lissajous figures.

Semester-2

THERMAL PHYSICS

Course Objectives:

- Thermal physics is a field of science dealing with temperature and heat. Thermal energy, heat, and temperature are some of the most significant concepts in thermal physics.
- Different atoms and molecules can emit or absorb energy in discrete quantities only.
- To improve the efficiency of a process for the transformation between energy and work.

Course Outcomes:

- Student identifies the relationship and correct usage of work, energy, heat capacity, specific heat, latent heat, and enthalpy.
- we will discuss Max Planck's quantum theory of radiation or quantum ... outcome as an increase in light energy.
- calculate absolute and gage pressure, and absolute temperature.

Semester-3
ELECTROMAGNETIC THEROY

Course Objectives:

- Electrostatic phenomena arise from the forces that electric charges exert on each other and are described by Coulomb's law.
- describing magnetic fields in the case of stationary (temporally constant) or approximately constant currents and magnetizations.
- helps us to solve any complex network for a given condition.

Course Outcomes:

- Students should be able to explain what happens to a conductor when it is placed in an electric field, and sketch the E field inside and outside a conducting .
- Magnetostatics is the study of magnetic fields in systems where the currents are steady (not changing with time).
- Network theorems are fundamental principles in electrical engineering and circuit analysis that help simplify and analyze complex electrical .

Semester-4

WAVES AND OPTICS

Course Objectives:

- to bring us music and TV.
- to study the atomic crystal structure of solids, small molecules and proteins.
- Polarization is used in sunglasses to reduce the glare.

Course Outcomes:

- Understand linear, time-invariant systems. .
- to study the atomic crystal structure of solids, small molecules and proteins.
- where democracies reached pernicious levels of polarization was some form of major democratic decline

Semester-5

MODERN PHYSICS

Course Objectives:

- Nuclear physicists seek to understand not just the familiar forms of matter we see around us, but also exotic forms such as those that existed in the first moments after the Big Bang and that exist today inside neutron stars.
- to identify the spectral lines of materials used in metallurgy.
- determining many physical properties, such as cleavage, electronic band structure, and optical transparency.

Course Outcomes:

- insert supporting teaching strategies that fit and align with the assessment methods and intended learning outcomes.
- There are three types of atomic spectra and they are emission spectra, absorption spectra, and continuous spectra.
- the structure of biomolecules of things like our bones and muscles

Semester-6

BASIC ELECTRONICS

Course Objectives:

- to allow an electric current to pass in one direction (called the diode's forward direction), while blocking it in the opposite direction (the reverse direction).
- to amplify current.
- more expensive bespoke devices that provide a unique purpose.

Course Outcomes:

- on the operating principles of semiconductor diodes, bipolar junction transistors, field-effect transistors, light-emitting diodes, laser diodes and solar
- Bipolar junction transistor is defined as the device that has a three-terminal semiconductor which is used as a current controlling device.
- devices can help overcome some of these difficulties: wedges. chairs, e.g. corner chairs, special seats. standing frames. Prosthetics, orthotics.