SEMESTER 1st to 3rd

MULTIDISCIPLINARY COURSE

PHY022I: PHYSICS (BASIC PHYSICS)

CREDITS: 03

Course Title: Basic Physics	**Course Credits: 3**
Total Contact Hours: 45	

Unit – 1	Hrs.
Units and measurements. Different system of units. SI system. Fundamental and derived units, accuracy and precision in measuring instruments. Physical quantities: Scalars and vectors. Vector algebra: addition, subtraction and multiplication of vectors. Different geometrical laws governing the addition and subtraction of vectors. Physical interpretation of dot and cross product of vectors.	(15)
Unit – 2	
Elementary ideas of differentiation and integration. Differentiation and Integration of x^n, Sinx, Cosx. Motion: Description of uniform motion, non-uniform motion, average speed and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs. Various relations describing the uniformly accelerated motion	(15)
Unit – 3	
Concept of inertia and the Newton's first law of motion. Some common examples of the application of this law in our day-today life. Linear momentum, Force, Newton's second law of motion. Conservation of linear momentum (one-dimensional collision), conservation of kinetic energies under special conditions (perfectly elastic collisions). Newton's third law of motion, Examples in support of the law.	(15)

Text Book:

1. Fundamentals of Physics: Resnick, Halliday and Walker, Wiley Press

Reference Books:

1. Concepts of Physics Vol 1, H C Verma.