Class : Bsc 2nd Semester : Third **Subject: Physics Paper: 1, PH: 301 (Thermodynamics and computer programming)**	
Co1	**Computer programming**: understand about the basics knowledge of computer,algorithm development ,flow chart and their interpretations .Basics of Fortran language,input and output statement, executable and non-executable statements.
Co2	**Application of Fortran programming** : Students learn to develop the Fortran programme for various mathematical problems.
Co3	**Thermodynamics-1:** Understand the basic concepts of thermodynamics, first and second law thermodynamics, Carnot's theorem, joule-Thomson effect, entropy ,entropy of a perfect gas, Nernst heat law(third law of thermodynamics).
Co4	**Thermodynamics-2:** Derive Clausius-claperyron and Clausius latent heat equation, Develop thermodynamical relations, thermodynamics func`tions, Apply the Maxwell relations such as relation between two specific heats of gas, variation of energy with volume for perfect gas, Vander wall gas.
Paper:2,PH:302,waves and optics-1	
Co1	**Interference-1** Students learn about interference by division of wavefront and difference between biprism and Liyod mirror fringes and phase change on reflection.
Co2	**Interference-II** Concepts of interference by division of amplitude and Michelson's Interferometer and its various applications.
Co3	**Diffraction-I** Students learn about Fresnel's diffraction, rectangular slit and circular aperture and diffraction due to narrow slit and wire in detail
Co4	**Diffraction-II** Fraunhoffer diffraction and its various types are studied in detail. The prism and grating spectra are also differentiated between.

CLASS: B.SC 2nd SEMESTER: FOURTH SUBJECT: PHYSICS PAPER: 1, PH- 401, STATISTICAL PHYSICS	
SNO.	**COURSE OUTCOMES**
co1	**STATISTICAL PHYSICS- I:** Students understand the basic concepts of probability and probability distribution, constraints, accessible states and statistical fluctuations. The relation between entropy and probability is established.
co2	**STATISTICAL PHYSICS-II:** The introduction and classification of statistics (classical and quantum) and categorize systems based on types of statistics. M.B. statistics and Maxwellian distribution was studied.
co3	**QUANTUM STATISTICS:** The Bose-Einstein and Fermi-Dirac energy distribution law are studied. Understood how F-D and B-E distributions are different and show when they reduce to the M-B distribution.
co4.	**THEORY OF SPECIFIC HEAT OF SOLID:** Describe and discuss specific heat and lattice vibrations in solids. Dulong and petit law and Einstein's theory and Debye's theory of specific heat are studied. Einstein and Debye theories are compared.
PAPER: 2, PH- 402, WAVE & OPTICS II	
co1	**POLARIZATION** Student learn about various forms of polarization & analysis of polarized light. Huygens's wave theory of double reflection. Fresnel theory of optical rotation & optical activity is studied.
co2	**FOURIER ANALYSIS** Students learn the fourier theorem & fourier analysis & various application of fourier theorem for analysis rectangular & triangular waves.
cop3	**FOURIER TRANSFORMS & GEOMETRICAL OPTICS I** Student study Fourier transform & its properties & application of Fourier transform of various function.
co4	**GEOMETRICAL OPTICS II & FIBRE OPTICS** Student studied various optical aberrations & their remedies.Theory behind fibre optics their application & advantages also studied.