Ph 1115 Physics Credit: 3.00

Wave and oscillations:Wave and composition of simple harmonic motion, simple harmonic motion, average value of kinetic and potential energies of a harmonic oscillation, superposition of simple harmonic motions, uses of Lissajous figure,damped oscillatory system, damped harmonic oscillation, the RLC circuit, forced vibration, quality factor of forced oscillator, sharpness of resonance, phase of driven oscillator, power absorption, types of waves, progressive and stationary wave, energy distribution due to progressive and stationary

wave.Sound waveand acoustics:Audiable, ultrasonic, infrasonic and supersonicwaves, Doppler’s effects and its application, applications of ultrasonic sound, intensity of sound, Bel, sound pressure level, phonon, acoustic intensity, architectural acoustic, diffraction of sound, musical sound, and noises, speech, characteristic’s of musical sound, interference of sound wave, phase velocity and group velocity.Electroacoustics (acoustical engineering):Electroacoustic phenomena, Electroacoustic music, Electroacoustic modulator.

Interference:Nature of light, interference of light, coherent source, young double slit experiment, energy distribution, condition for interference, production of interference fingers, Fresnel Bi-prism, Newton's ring.Optical instrument:Photographic camera, simple microscope, compound microscope, telescope, astronomical telescope, spectrometer.Radiation and nuclear physics:Black body radiation, Planck's quantum hypothesis, Photo electric effect, Compton effect, quantum state of energy, Dual character of light, X-raydiffraction, formulation of Bragg and Von Laue, application of x-ray, nuclear radiation, radioactivity, radioactive disintegration, artificial radioactivity, natural radioactivity, application of radioactivity, nuclear reactors.