



DISTT:- RAIGARH (C.G.)

Program outcomes of U.G. Physics

Students having B Sc. Program in various branches After the completion of the B Sc Degree there are various option available for the science students, they can pursue master degree in science, M.Sc work in research related field and can even look for professional job oriented courses often in some reputed Universities or colleges the students are recruited directly by big MNCs after the completion of the course. The students is also eligible for the job of various government exams conducted by UPSC, PSC, SSC, and Banking Field.

Program Specific outcome of U.G. Physics

- 1) Graduates will acquire a comprehensive knowledge and sound understands of fundamental of physics.
- 2) Graduates will be prepared range of general skill to solve problem to evaluate information to use computers productively to communicate with society effectively learn independently.
- 3) Graduates will acquire a jobs efficiently in diverse field such as Science and Engineering, Education, Banking, Public Services, Business etc.
- 4) The Graduates will have continuous learning attitude to adopt new skill and techniques to overcome the challenges related with new technologies.
- 5) Students will be able to understand the fundamental theories concepts and application basic area of research develop the ability to explore new areas of research.

Course outcomes of U.G. Physics

Machines, Oscillations and properties of matter

Students will have understand:-

- 1) Law of motion, conservation law of linear and angular momentum.
- 2) Components of velocity and acceleration in different co-ordinate system.
- 3) Bifilar oscillation and simple, compound, Torsional pendulum.
- 4) Strain and stress viscosity and surface tension and elasticity.
- 5) Learn the basic of properties of matter, how young modulus and rigidity modulus are defines and how they are evaluated for different shapes of practical relevance.
- 6) Learn the fundamental of harmonic oscillator model including damped and forced oscillators and grasp the significance of terms like quality factor and damping coefficient.

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Electricity, Magnetism and Electromagnetic Theory

Student will be able to:-

- 1) Understand the basic concepts of electric and magnetic field.
- 2) Understand the basic laws of magneto-statics in differential form.
- 3) Understand the Biot-Savart, Gauss's and Ampere law.
- 4) Understand the concept of conductors, dielectrics inductance and capacitance
- 5) Gain knowledge on the nature of magnetic material, EM waves, Propagation and their properties.

Thermodynamic Kinetic Theory and Statistical Physics


Completion of this course will enable the student to:-

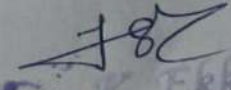
- 1) Know the basic law of thermodynamic and thermodynamic relationships.
- 2) Understand the behavior of real and ideal gas.
- 3) Understand the quantum Statistics, Bose-Einstein, Maxwell Boltzmann Fermi-Dirac statistics.
- 4) Understand the efficiency of Carnot's engine and their significance of first law and second law of thermodynamics and implication of the second law of thermodynamics and limitations placed by the second law on the performance of thermodynamics system.
- 5) Ability to evaluate entropy changes in a wide range of process and determines the reversibility or irreversibility of a process from such calculation.

Waves Acoustics & optics

Student will be able to:-

- 1) Comparison of sound waves and light waves.
- 2) Understand the Fermat Principal, Aplanatic point, Cardinal points of an optical system.
- 3) Understand the interference, Stokes law for reflection of light.
- 4) Understand the laser system and various application of laser.
- 5) Study the general equation of wave motions in general and TM waves in stretched strings and longitudinal waves in gases.
- 6) Understand application of acoustics in noise and music, musical scale, sonar and ultrasonic.
- 7) To have developed the idea of interferences, diffraction and polarization and to solve problems related to the phenomena


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Relativity Quantum Mechanics, Atomic Molecular and Nuclear Physics.

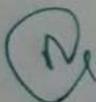
Completion of this course will enable the student to:-

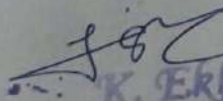
- 1) Understand inertia and non-inertia frames
- 2) Understand of importance of quantum mechanics and compared to classical mechanics.
- 3) Basic Properties of Nucleus and Nuclear models.
- 4) Analyze the effects of relativity by Netoniam and special theory of Relativity.
- 5) Calculate the De-Broglie wavelength of a wave associated with the particle, explain the importance of Davisson and Germer and G.P. Thomson experiments and Heisenberg's uncertainty principal and describe the illustration.
- 6) Describe wave function derive the schrodinger equation and interpret the wave function and eigen value equation.
- 7) Understand many electrons atoms and interaction of Spin LS and JJ Coupling.
- 8) Understand rotational, Vibrational, electronic and Raman spectra of molecules and their application.
- 9) Have a deep knowledge about Radio activity nuclear fission and nuclear fussion the relevance of nuclear transformation.

Solid State Physics, Solid State Devices and Electronics.

Students Understands:-

- 1) Amorphos and crystalline solid, Dulong- Petits law, Einsteins and Debye theories.
- 2) Behavior of electrons in solid including the concept of energy bands.
- 3) The semiconductors, diodes, and various transistors.
- 4) In brief discuss the half and full wave rectifier and amplifiers.
- 5) Understand free electron Fermi gas, density of states, Fermi level and electric conductivity.
- 6) Understand electron in periodic potential energy bands theory classification of metals, semiconductor, and insulator.
- 7) Have a basic knowledge of semiconductor diodes, rectifier, and filter circuits and characteristics of FET, MOSFET, UJT.


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