



G.VENKATASWAMY NAIDU COLLEGE (Autonomous), KOVILPATTI.

Affiliated to Manonmaniam Sundaranar University – Tirunelveli.

(Re-Accredited with 'A' Grade by NAAC)

(Affiliated to Manonmaniam Sundaranar University, Tirunelveli).

(Under the Management of The Kuppasamy Naidu Charity Trust for Education and Medical Relief, Coimbatore-37)

Programme Outcomes - Department of Physics (UG)

GPO No.	Programme Outcomes
PO1	Gain knowledge about key concepts in various branches of physics.
PO2	Explore the vast scope of physics as both theoretical & experimental science.
PO3	Define basic laws, Concept, able to read analyze and communicate in concise manner.
PO4	Understand the applications of physics in day to day life.
PO5	Apply theoretical concepts learned to solve problems and acquire the knowledge about latest technological, Mathematical module and computing to describe the Physical world.
PO6	To exhibit laboratory skills learned, able to make measurements in laboratory, analyze the measurement and draw valid conclusion and able to work both independently and as group.
PO7	Demonstrate professional behavior, unbiased, follow ethics, promote safe learning and working environment

Programme Specific Outcomes - Department of Physics

PSO No.	Intended Programme Specific Outcomes
PSO1	Enhancing experimental skill of students through with the help of well equipped laboratories.
PSO2	For the sake of the students, periodic course revision is done. Recent development in the area of physics is included.
PSO3	Students will be trained to excel in problem solving skill
PSO4	To improving the conceptual knowledge in Physics. improving the conceptual knowledge in Physics.



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Course Outcome – Department of Physics

FIRST SEMESTER

Core – 1 Mechanics (U20PH101)

CO No.	Course Outcome
CO1	Define various concepts in Mechanics.
CO2	Demonstrate laws of Mechanics, collisions, projectile, dynamics of rigid bodies and relativity.
CO3	Apply the concepts learned and outline its applications.
CO4	Compare and distinguish the types of forces, motion, projectile, liquid flow and frames.
CO5	Determine and evaluate the values related with mechanics

Core-2 Properties of matter and Acoustics (U20PH102)

CO No.	Course Outcome
CO1	Able to remember and define basic concepts of elasticity, bending of beams, surface tension, viscosity and acoustics
CO2	Understand the development, implications & scope of properties of matter and acoustics
CO3	Apply Knowledge about properties of matter, acoustics to explain physical processes and related technological advances
CO4	Analyze experimental design and deduce relations based on studies on elasticity, bending of beams, Surface tension, viscosity and acoustics
CO5	Develop skills and able to solve problems using the concept of properties of matter and acoustics with theoretical explanations.



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Elective Generic 1

Elective Generic Physics – I (U20PH1A1)

CO No.	Course Outcome
CO1	Relate the knowledge of fundamental physics in a broader context.
CO2	Outline the concept of Properties of matter, Thermal Physics and Optics.
CO3	Apply basic concepts learned and able to explain various physical phenomena.
CO4	Analyze the concepts of Surface tension, Viscosity, methodology of movement of heat energy, Interference, Diffraction and polarization
CO5	Determine various physical constants using different experimental methods.

SECOND SEMESTER

Core-3

Heat and Thermodynamics (U20PH203)

CO No.	Course Outcome
CO1	Recall the basics of Heat and Thermo dynamics.
CO2	Understand transport phenomena, Low temperature Physics Thermodynamics I& II, Conduction and Radiation
CO3	Apply the concepts and acquire problem solving in Heat and Thermo dynamics.
CO4	Analyze the transport phenomena, laws of thermo dynamics and heat transfer.
CO5	Explain the various expression of heat and thermodynamics.



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Core-4

Optics (U20PH204)

CO No.	Course Outcome
C01	Develop basic knowledge and able to define physics beyond geometric optics, wave optics and modern optics
C02	Explain various physical phenomena on the basis of optics and understanding its scope
C03	Apply the principles of optics and able to outline its applications.
C04	Analyze the theories to conduct experiment, deduce relationships and understand the working of optical instruments
C05	Solve problems in optics by selecting the appropriate equations, perform numerical and analytical calculations with theoretical explanations

Elective Generic2

Physics – II (U20PH2A2)

CO No.	Course Outcome
C01	Recall the fundamental concepts of Physics.
C02	Outline the Concepts of Electricity, Electro magnetism, Electronics, Nuclear Physics and Relativity
C03	Apply the theories learned and solve problems.
C04	Analyze and reduce the relation between physical quantities.
C05	Ability to synthesis understanding and experience for a better and improved comprehension in physics



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Core Lab - 1

Physics Practical – I (U20PH2P1)

CO No.	Course Outcome
CO1	Understand the experimental ideas related with Mechanics, Properties of matter, Thermal Physics and Optics.
CO2	Ability to design experiment in the labs to demonstrate the concept learned in the classrooms
CO3	Utilizing the instruments available. Readings are observed and Calculations are made.
CO4	Analyze and justify the experimental values obtained.
CO5	Able to create experimental setup and develop the skill of performing experiments.

Elective- Generic Lab

Elective-Generic Physics Practical(U20PH2AP)

CO No.	Course Outcome
CO1	Recall and understand the experimental ideas related with Properties of matter, Thermal Physics, Electricity, Electronics and Optics.
CO2	Develop the knowledge about basic experimental devices.
CO3	Analyze the results obtained
CO4	Justify the experimental values and arriving at meaningful conclusions
CO5	Able to design simple electronic circuits and carry out physics experiments



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THIRD SEMESTER

CORE5:

ELECTRICITY (U20PH305)

CO No.	Course Outcome
CO1	Understand the fundamentals of electricity and its linkages.
CO2	Demonstrate coulomb's law, gauss law, electric field and potential, transient current & alternating currents.
CO3	Ability to identify and apply appropriate theory and make experimental measures.
CO4	analyze and apply the concepts learned to deduce expressions describing electricity and its effect.
CO5	solved wide range of problems with theoretical explanations in electricity.

Elective Generic 3

Physics – I (U20PH3A3)

CO No.	Course Outcome
CO1	Relate the knowledge of fundamental physics in a broader context.
CO2	Outline the concept of Properties of matter, Thermal Physics and Optics.
CO3	Apply basic concepts learned and able to explain various physical phenomena.
CO4	Analyze the concepts of Surface tension, Viscosity, methodology of movement of heat energy, Interference, Diffraction and polarization
CO5	Determine various physical constants using different experimental methods.



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Employability Enhancement– I Fundamental of Physics – I (U20PH3EEA)

CO No.	Course Outcome
CO1	Recall the basic concepts of various branches of physics.
CO2	explain the basics of Mechanics, Elasticity, Transfer of Heat, optical concepts and electrical fundamentals
CO3	Apply the concepts learned to explain its applications.
CO4	Emphasize the discipline of physics to be most important branch of science.
CO5	Relate the sub fields and current developments in the field of physics

Employability Enhancement – I Applied Physics (U20PH3EEB)

CO No.	Course Outcome
CO1	Recall different types of energy sources and their uses.
CO2	Compare the different kinds of energy sources and its application.
CO3	Apply the concepts of solar energy, Bio mass energy; Wind energy techniques and understand its applications
CO4	Analyze renew able and non renewable energy resources, Solar green house, ocean thermal energy conversion
CO5	Explain renewable and conventional energy systems, Deenabandhu model gas plant, Geothermal power plant and wind farms.



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Core-6

Electromagnetism (U20PH406)

CO No.	Course Outcome
C01	Recall the basic concepts of electro magnetism
C02	Demonstrate electromagnetic induction, Magnetic effect of electric current, Magnetic properties, Maxwell's equation
C03	Apply the concepts of electro magnetism and its experimental findings.
C04	Expose the vast scope of electro magnetism and its applications.
C05	Emphasize the importance of electricity and Magnetism and establish New ideas to solve problems.

Core-7

Introduction to Solid State Physics (U20PH407)

CO No.	Course Outcome
C01	Recall the basic Knowledge about Solid State Physics.
C02	Explain Crystal Structure, Dielectric Properties, Magnetic Properties, Bonding in Solids, Super conductor and Nano Materials.
C03	Illustrate the Various Structures, Theory, bonding in solids and Materials.
C04	Categorize the types of electronic polarization, types of magnetic materials, types of bonds in crystals and type I & type II super conductors.
C05	Examine theoretical concepts of solid state physics and solve problems related to it.



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Elective Generic

Physics–II (U20PH4A4)

CO No.	Course Outcome
C01	Recall the fundamental basic concepts of Physics.
C02	Outline the Concepts of Electricity, Electro magnetism, Electronics, Nuclear Physics and Relativity
C03	Apply the theories learned and solve problems.
C04	Analyze and reduce the relation between physical quantities.
C05	Ability to synthesis understanding and experience for a better and improved comprehension in physics

CORE LAB – II

PHYSICS LAB – II (U20PH4P2)

CO No.	Course Outcome
C01	Recall and under stand the experimental ideas related with electricity and Electro magnetism.
C02	Identify the link between theory and practical
C03	Analyze the characteristics of transistor and zenerdiode.
C04	Justify the experimental values and construct the experimental setup
C05	Make meaningful conclusions using spectrometer and Ballistic Galvanometer



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Elective Generic Lab – I

Generic Physics Practical (U20PH4AP)

CO No.	Course Outcome
CO1	Recall and understand the experimental ideas related with Properties of matter, Thermal Physics, Electricity, Electronics and Optics.
CO2	Develop the knowledge about basic experimental devices.
CO3	Utilizing the instruments available. Readings are observed and Calculations are made.
CO4	Analyze and justify the experimental values obtained.
CO5	Able to create experimental setup and develop the skill of performing experiments.