Vidya Vikas Madal Pathrud's

SHANKARRAO PATIL MAHAVIDYLAYA, BHOOM.

Department of Physics

Course Outcome

B.Sc. First Year

Paper No I Mechanics, properties of matter & sound	
CO 1	To understand concept of gravitation, gravitational field, gravitational potential.
CO 2	To understand the dynamics of different types of compound pendulum and to determine 'g'.
CO 3	To understand the elastic properties of matter and expression of bending beam with its application as a cantilever. 5. To understand concept of Viscosity.
CO 4	To determine the surface tension by Jaeger's method from experiments.
CO 5	To understand generation of Ultrasonic waves

Paper II Physics Heat & Thermodynamics	
CO 1	Relating to thermodynamic knowledge the student gain the knowledge of refrigeration cooling technology
CO 2	To study the concept of entropy thoroughly.
CO 3	To study heat engines and their efficiency
CO 4	To enable students to solve numerical problems.
CO 5	To enable students to understand the laws of thermodynamics and thermodynamic processes.

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Paper IV Geometrical & Physical Optics	
CO 1	This course provides students with a working knowledge of optical physics, including diffraction, interference, and polarisation and laser physics.
CO 2	This paper aims to impart a detailed knowledge in Optics, fiber optics, holography ,Basic ideas in image formation ,as scientific assistant in space research and Progression to PG education in Physics
CO 3	The candidate to be able to understand and solve problems related to the eye and optical instruments/lenses.
CO 4	Students should learn function and correction.
CO 5	Knowledge and understanding should be demonstrated in the areas of: (1) refraction at single spherical or plane surfaces, (2) thin lenses, (3) thick lenses

Paper V Electricity & Magnetism	
CO 1	Understand electric and magnetic fields in matter.
CO 2	Apply Maxwell's equations to various physical problems.
CO 3	Calculate EM wave propagation.
CO 4	Understand radiation, relativistic effects and the processes that produce EM waves from astrophysical objects in space.
CO 5	To understand line, surface and volume integrals.

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Department of Physics

Course Outcome

B.Sc. Second Year

Paper VII Mathematical, Statistical Physics & Relativity	
CO 1	To familiarize students with the mathematical methods used in physics.
CO 2	To familiarize students with the vector algebra.
CO 3	To get acquaintance with the differential equations.
CO 4	To familiarize students with partial differential equations.
CO 5	To familiarize students with classical and quantum statistics.

Paper VIII Modern and Nuclear Physics	
CO 1	To understand construction and working of various particle accelerators and detectors.
CO 2	To familiarize students with nuclear forces and elementary particles.
CO 3	To understand photoelectric effect.
CO 4	To study different photoelectric cells.
CO 5	To have deep understanding of radioactivity and its applications

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Paper XI General Electronics	
CO 1	To have deep knowledge of semiconductor devices.
CO 2	To understand the process of modulation and demodulation.
CO 3	To understand semiconductors.
CO 4	To familiarize learners with transistor circuits and their characteristics.
CO 5	To understand oscillators and multi vibrators.

Paper No XII Solid state Physics	
CO 1	To familiarize students with basic concepts of structure of solids
CO 2	To understand transport properties thoroughly.
CO 3	To understand bonding and band theory of solids deeply.
CO 4	To familiarize students with characterization techniques.
CO 5	To enable students to solve numerical problems.

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Course Outcome

B.Sc. Third Year

Paper No. XV Classical and Quantum Mechanics	
CO 1	To familiarize students with historical background of quantum mechanics
CO 2	To enable students to solve numerical problems
CO 3	To understand wave function and its physical interpretations.
CO 4	To familiarize learners with time dependent and time independent Schrodinger equations and their applications.
CO 5	To familiarize students with various operators used in quantum mechanics.

Paper No. XVI Electrodynamics	
CO 1	To familiarize students with various differential operators to study the Gauss law.
CO 2	To familiarize learners with basic concepts and equations related to time varying fields such as Faradays law, Len's law etc.
CO 3	To write expression for pointing vectors for electromagnetic waves.
CO 4	To enable to write wave equations.
CO 5	To solve numerical problems.

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Paper No XIX Atomic, Molecular Physics and LASER	
CO 1	To understand Zeeman Effect, Paschan back effect, Stark effect etc.
CO 2	To understand Molecular Raman Spectroscopy.
CO 3	To have deep introduction to lasers.
CO 4	To familiarize students with different types of LASERS.
CO 5	To understand construction and working of various types of LASERS.

Paper No XX Non-conventional Energy sources and Optical Fibers	
CO 1	To create awareness among students about energy conservation
CO 2	To familiarize students with applications of solar energy.
CO 3	To familiarize students with applications of biomass energy.
CO 4	To familiarize students with wind mechanics.
CO 5	To familiarize students with optical fibers.

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Department of Physics

Programme Outcomes

B.Sc.

Programme Outcomes		
PO 1	Simulates the mental thoughts	The B.Sc. programme enabled the students to enhance their critical thinking, during the three year period of study and the curriculum stimulates the mental thoughts and assumptions of the students.
PO 2	Basic laws	To define the basic laws involved in Physics
PO 3	Understand the concepts	To understand the concepts and significance of the various physical phenomena.
PO 4	Carry out experiments	To carry out experiments to understand the laws and concepts of Physics.
PO 5	Apply the theories	To apply the theories learnt and the skills acquired to solve real time problems.
PO 6	Develop a scientific temper	On successful completion of Bachelor of Science programme, students will develop a scientific temper, critical thinking, problem solving skills, and research attitude for the betterment of the society.
PO 7	Different perspectives	This Analysis leads to take decisions at intellectual, organizational and personal from different perspectives of life.
PO 8	Student's academic abilities	To enhance the student's academic abilities, personal qualities and transferable skills which will give them an opportunity to develop as responsible citizens
PO 9	Problem solving skills	To acquire a wide range of problem solving skills, both analytical and computational and to apply them.

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PO 10	Practical work	This helps the students to take up practical work and compare the results with their assumptions, there by leading to accuracy and validity of the practical knowledge
PO 11	Competency	Successfully compete at national and international level competitive examinations.
PO 12	Future Employability	Enhance and adopt new skills for future employability in teaching and research through seminar, internship.

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Programme Specific Outcomes

B.Sc.

Programme Specific Outcomes	
PSO 1	Capable of analyzing and solving problems using reasoning skills based on concepts of Physics.
PSO 2	Know and demonstrate understanding of the concepts from different branches of Mathematics
PSO 3	Develop the knowledge, skills and attitudes necessary to pursue further studies in Mathematics and research in Mathematics.

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