

PRABHAKAR PATIL EDUCATION SOCIETY'S
ARTS, COMMERCE AND SCIENCE COLLEGE VESHVI ALIBAG
DEPARTMENT OF PHYSICS



Program:- B.Sc. Physics

Programme Outcome (PO):

After completing B.Sc. (Physics) Programme students will be able to:

- ✓ Apply the basic principles of Physics to the events occurring around us and also in the world.
 - ✓ Try to find out or analyze scientific reasoning for various things.
 - ✓ Apply the knowledge to develop the sustainable and eco-friendly technology for pollution free environment.
 - ✓ Collaborate effectively on team-oriented projects in the field of Physics.
 - ✓ Develop ability to work in group.
 - ✓ Develop abilities for logical thinking.
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Programme Specific Outcome (PSO):

- ✓ To understand the basic laws and explore the fundamental concepts of physics
 - ✓ To understand the concepts and significance of the various physical phenomena.
 - ✓ To carry out experiments to understand the laws and concepts of Physics.
 - ✓ To apply the theories learnt and the skills acquired to solve real time problems.
 - ✓ To acquire a wide range of problem solving skills, both analytical and technical and to apply them.
 - ✓ To enhance the student's academic abilities, personal qualities and transferable skills this will give them an opportunity to develop as responsible citizens.
 - ✓ Providing a hands-on learning experience such as in measuring the basic concepts in properties of matter, heat, optics, electricity and electronics.
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Course outcome (CO):

Course:- F.Y.B.Sc. Physics

SEM: I PAPER: I
USPH101 Classical Physics

1. Students will be able to apply Newton's laws for the calculations of the motion of simple systems.
2. Use Work and Energy equivalence and its applications through suitable numerical.
3. Use Elasticity, Viscosity and Fluid dynamics in daily life.
4. Understand Real gases and validity of the laws of thermodynamics.
5. Demonstrate quantitative problem solving skills in all the topics covered.

SEM: I PAPER: II
USPH102 Modern Physics

1. Student can understand nuclear properties, nuclear behaviour and various types of nuclear reactions
2. Understand the concept of radioactivity, its applications and different types of equilibria in radioactive elements
3. Understand various types of nuclear detectors and their applications
4. Demonstrate and understand the quantum mechanical concepts.
5. Demonstrate quantitative problem solving skills in all the topics covered.

SEM: II PAPER: I
USPH201 Optics

1. Student can understand the concept of lens, lens defects and their minimization.
2. Significance of combination of lenses simplified to eyepiece of optical instrument.
3. Student can understand interference of light with few well known daily life examples.
4. Student can understand Lasers and Optical fibre their applications in day to day life.

SEM: II PAPER: II
USPH202 Electricity and Electronics

1. Student can understand the basic concepts of Alternating current theory, AC bridges and Circuit Theorems.
2. Understand the basics of Analog and Digital Electronics and apply the mineral life situations.
3. Demonstrate quantitative problem solving skills in all the topics covered.

Course:- S.Y.B.Sc. Physics



SEM: III PAPER: I

USPH301 Thermodynamics and Temperature Transducers

1. Comprehend the basic concepts of thermodynamics & its applications in physical situation.
2. Learn about situations in low temperature.
3. Demonstrate tentative problem solving skills in all above areas.

SEM: III PAPER: II

USPH302 Electronics

1. Understand the basics of transistor biasing, operational amplifiers, their applications
2. Understand the basic concepts of oscillators and be able to perform calculations using them
3. Demonstrate quantitative problem solving skill in all the topics covered.

SEM: III PAPER: III

USPH303 Mathematical Methods & Applied Physics – I

1. The ability to apply the principles of physics to solve new and unfamiliar problems.
2. Learn Mathematical Techniques required to Physical phenomena at the under graduate level and get exposure to important ideas of differential equations.
3. Solve non homogeneous differential equation and partial differential equation using simple methods.
4. Describe and recognize different types of differential equation in program.
5. Understand the basic mathematical concepts and applications of them in physical situations.

SEM: IV PAPER: I

USPH401 Optics & Applied Physics II

1. Understand the diffraction, polarization processes and applications of them in physical situations.
2. Understand the applications of interference in design and working of interferometers.
3. Understand the resolving power of different optical instruments.
4. To develop assembly language programming skills and learn the real time applications of microprocessor.

SEM: IV PAPER: III

USPH402 Electrodynamics

1. Understand the postulates of quantum mechanics and to understand its importance in explaining significant phenomena in Physics.
2. Demonstrate quantitative problem solving skills in all the topics covered.

SEM: IV PAPER: III

USPH40 Quantum Mechanics

1. Understand the postulates of quantum mechanics and to understand its importance in explaining significant phenomena in Physics.
2. Demonstrate quantitative problem solving skills in all the topics covered.

Head of The Department
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