

Class- F.Y.B.Sc. (PHYSICS)
Subject- Mechanics (SEM-I)
(2019 Pattern)

Topic –

- 1) Motion
- 2) Work and Energy
- 3) Fluid Mechanics
- 4) Properties of matter

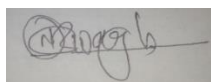
Objectives:

- To provide in depth knowledge of scientific and technological aspects of Physics
- To familiarize with current and recent scientific and technological developments
- To enrich knowledge through problem solving, hand on activities, study visits, projects etc.
- To train students in skills related to research, education, industry, and market.
- To create foundation for research and development in Electronics
- To develop analytical abilities towards real world problems
- To help students build-up a progressive and successful career in Physics

Learning Outcomes:

On successful completion of this course students will be able to do the following:

1. Demonstrate an understanding of Newton's laws and applying them in calculations of the motion of simple systems.
2. Use the free body diagrams to analyze the forces on the object.
3. Understand the concepts of energy, work, power, the concepts of conservation of energy and be able to perform calculations using them.
4. Understand the concepts of elasticity and be able to perform calculations using them.
5. Understand the concepts of surface tension and viscosity and be able to perform calculations using them.
6. Use of Bernoulli's theorem in real life problems.
7. Demonstrate quantitative problem solving skills in all the topics covered.



Subject Teacher



Principal
B.D. Kale Mahavidyalaya
Ghodegaon, Dist. Pune

Class- F.Y.B.Sc. (PHYSICS)
Subject- Physics principles and Applications (SEM-I)
(2019 Pattern)

Topic –

- 1) Physics of Atoms
- 2) Lasers and its applications
- 3) Physics of Molecules
- 4) Sources of electromagnetic waves
- 5) Applications of electromagnetic waves

Objectives:

To foster scientific attitude, provide in-depth knowledge of scientific and technological concepts of Physics.

To enrich knowledge through problem solving, minor/major projects, seminars, tutorials, review of research articles/papers, participation in scientific events, study visits, etc.

To familiarize with recent scientific and technological developments.

To create foundation for research and development in Physics.

To help students to learn various experimental and computational tools thereby developing analytical abilities to address real world problems.

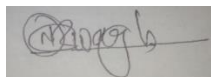
To train students in skills related to research, education, industry, and market.

To help students to build-up a progressive and successful career in Physics.

Learning Outcomes:

On successful completion of this course students will be able to do the following:

1. To understand the general structure of atom, spectrum of hydrogen atom.
2. To understand the atomic excitation and LASER principles.
3. To understand the bonding mechanism and its different types.
4. To demonstrate an understanding of electromagnetic waves and its spectrum.
5. Understand the types and sources of electromagnetic waves and applications.
6. To demonstrate quantitative problem solving skills in all the topics covered.



Subject Teacher



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Class- F.Y.B.Sc. (PHYSICS)
Subject- Heat and Thermodynamics (SEM-II)
(2019 Pattern)

Topic –

- 1) Fundamental of Thermodynamics
- 2) Applied Thermodynamics
- 3) Heat Transfer Mechanisms
- 4) Thermometry

Objectives:

To foster scientific attitude, provide in-depth knowledge of scientific and technological concepts of Physics.

To enrich knowledge through problem solving, minor/major projects, seminars, tutorials, review of research articles/papers, participation in scientific events, study visits, etc.

To familiarize with recent scientific and technological developments.

To create foundation for research and development in Physics.

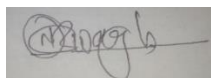
To help students to learn various experimental and computational tools thereby developing analytical abilities to address real world problems.

To train students in skills related to research, education, industry, and market.

To help students to build-up a progressive and successful career in Physics.

Learning Outcomes:

1. Describe the properties of and relationships between the thermodynamic properties of a pure substance.
2. Describe the ideal gas equation and its limitations.
3. Describe the real gas equation.
4. Apply the laws of thermodynamics to formulate the relations necessary to analyze a thermodynamic process.
5. Analyse the heat engines and calculate thermal efficiency.
6. Analyze the refrigerators, heat pumps and calculate coefficient of performance.
7. Understand property 'entropy' and derive some thermo dynamical relations using entropy concept.
8. Understand the types of thermometers and their usage.



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Subject Teacher

Class- F.Y.B.Sc. (PHYSICS)
Subject- Electricity and Magnetism (SEM-II)
(2019 Pattern)

Topic –

- 1) Electrostatics
- 2) Dielectrics
- 3) Magnetization
- 4) Magneto statics
- 5) Magnetic properties of Materials

Objectives:

To foster scientific attitude, provide in-depth knowledge of scientific and technological concepts of Physics.

To enrich knowledge through problem solving, minor/major projects, seminars, tutorials, review of research articles/papers, participation in scientific events, study visits, etc.

To familiarize with recent scientific and technological developments.

To create foundation for research and development in Physics.

To help students to learn various experimental and computational tools thereby developing analytical abilities to address real world problems.

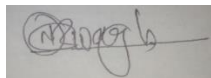
To train students in skills related to research, education, industry, and market.

To help students to build-up a progressive and successful career in Physics.

Learning Outcomes:

On successful completion of this course students will be able to do the following:

- 1) To understand the concept of the electric force, electric field and electric potential for stationary charges.
- 2) Able to calculate electrostatic field and potential of charge distributions using Coulomb's law and Gauss's law.
- 3) To understand the dielectric phenomenon and effect of electric field on dielectric.
- 4) To Study magnetic field for steady currents using Biot-Savart and Ampere's Circuital laws.
- 5) To study magnetic materials and its properties.
- 6) Demonstrate quantitative problem solving skills in all the topics covered.



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