F.Y.B.Sc. (PHYSICS)
(SEM-I)(NEP-2024 Pattern)
PHY-101-T: Fundamentals of Physics-I

Course Objectives: -

This course aims to introduction of Mechanics.

1) Explain the concept of centre of mass of systems of individual particles and of continuous distributions of matter; explain the principle of momentum conservation. Describe the difference between inelastic and elastic collisions.

2) Describe the rotational motion of rigid bodies using the concepts of angular velocity and acceleration, rotational inertia, torque, and the rotational analogue of Newton's law.

3) Explain the relation between pressure and force. Explain why some objects float and others sink. Express conservation of mass and energy for fluids through the continuity equation and Bernoulli's equation.

4) Introduce basic concept and principles in Physics.

5) Introduce applications of basic Physics concept and principles for modern life.

Course Outcomes (CO): -

Upon completion of this course student will able to

1) Articulate and apply the principle of conservation of mechanical energy to solve real life problems. Show the relation between force and energy using potential-energy curves.

2) Understood the concept of centre of mass and find out centre of mass of systems of individual particles and of continuous distributions of matter. Apply principle of momentum conservation to systems of particles. Apply the appropriate conservation laws to analyze real world problems.

3) Calculate the rotational inertias of objects with sufficient symmetry by summing or integrating. Solve problems that involve both linear and rotational motion. Calculate rotational kinetic energy, and explain its relation to torque and work.

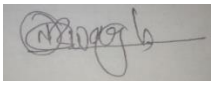
4) Understand relation between pressure and force; calculate pressure as a function of depth in liquids. Determine quantitatively the position of floating objects and the apparent weight of submerged objects. Use the continuity equation and Bernoulli's equation to solve problems involving fluid dynamics.

5) Understand basic principles in Physics.

6) Applications of physics principles to resolve community problems.

7) Develop advanced thinking in future life style.

8) Apply Knowledge of Physics principles in day today life.



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

Subject Teacher

F.Y.B.Sc. (PHYSICS)
(SEM-II) (NEP-2024 Pattern)
PHY-151-T: Fundamentals of Physics-II

Course Objectives: -

This course aims to introduce Physics of Thermodynamics to the students.

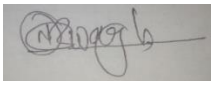
Objectives are.

1) To Study the basic concepts of Thermal Physics.
2) To Study the basic concepts of electricity and magnetism
3) To impart the knowledge and applications about thermal physics, electricity and magnetism in our day to day life.

Course Outcomes (CO):

Upon Completion of this course, the students will be able to:

1) Understand the basic concepts of Thermodynamics and laws of thermodynamics.
2) Identify the different states of system and their dependence on various thermodynamic variables. 3) Understand different thermodynamic processes and their applications.
4) Understand different heat engines and their working principles.
5) Learn the heat radiation mechanism and relate this course to the daily chores through some applications.
6) Understand concept of electricity and magnetism.



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F.Y.B.Sc. (PHYSICS)

(SEM-I) (NEP-2024 Pattern)

SEC-101-PHY-P: Experimental Skills in Physics Lectures:

Course Objective-

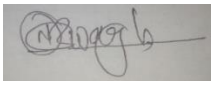
The course aims to introduce

1. To understand working principle and its applications the various instruments in physics
2. To impart knowledge about the measurement of physical quantity and its analysis

Course Outcomes-

Upon completion of the course, the students will able to

1. Understand the working principles of various measuring instruments.
2. Acquire the scientific information of various physical and electrical instruments used in physics practical
3. Identify the errors in instrument and study their analysis.



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F.Y.B.Sc. (PHYSICS)

(SEM-I) (NEP-2024 Pattern)

VEC-101-T: Environment Education-I

Course Objectives:-

This course aim to introduce “Environment Education-I”.

1) To study environmental issues and sustainable development in the context of physics.

Course outcome (CO):

Upon completion of the course the student will be able to

1) To analyze local, regional, and global environmental issues and their effects.

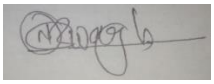
2) To apply relevant environmental policies and ethical considerations to real-world scenarios.

3) To explain principles of resource management and recycling issues.

4) To describe how human activities impact the environment.

5) To design and implement action plans for community-based environmental projects.

6) To evaluate different strategies for conserving biodiversity and ecosystems.



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F.Y.B.Sc. (PHYSICS)

(SEM-II) (NEP-2024 Pattern)

VEC-151-T: Environment Education-II

Course Objectives:-

This course aim to introduce “Environment Education-II”.

1) To study environmental issues and sustainable development in the context of physics.

Course outcome (CO):

Upon completion of the course the student will be able to

1) Identify various types of environmental pollution and their impacts on health.

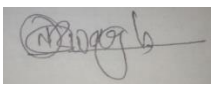
2) Explain the basic concepts of climate change, including its causes and effects.

3) Analyze different strategies for adapting to and mitigating the effects of climate change.

4) Evaluate various environmental management practices and their effectiveness.

5) Apply the principles of key environmental treaties and legislation to case studies.

6) Create action plans that address specific environmental issues based on current policies and management practices.



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F.Y.B.Sc. (PHYSICS)

(SEM-II) (NEP- 2024 Pattern)

SEC-154-PHY-P: Basic Lab Electric Devices and Circuits

Course Objectives:-

- This course aim to introduce “Electric circuits and Networks” to contribute the knowledge of electric elements and its uses, and also aware about Instrumentation and its Industrial Application.

Course outcome (CO):

Upon completion of the course the student will be able

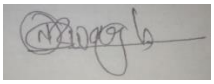
1) To expose the students to the basic concepts of electric elements and their functions.

2) To provide adequate knowledge about the Industrial applications of electric instruments.

3) To provide adequate knowledge about its applications.

4) Students can study Electrical Engineering.

5) Students can understand about devices and systems that use electricity and electromagnetism and their design and application.



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