

Class- S.Y.B.Sc. (PHYSICS)
Subject- Mathematical Methods in Physics (SEM-III)
(2019 Pattern)

Topic –

- 1) Complex Number
- 2) Partial Differentiation
- 3) Vector Algebra and analysis
- 4) Differential Equation

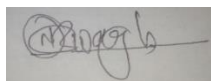
Objectives:

- 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:

After the completion of this course students will be able to

1. Understand the complex algebra useful in physics courses.
2. Understand the concept of partial differentiation.
3. Understand the role of partial differential equations in physics.
4. Understand vector algebra useful in mathematics and physics.
5. Understand the concept of singular points of differential equations.



Subject Teacher



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

Class- S.Y.B.Sc. (PHYSICS)
Subject- Electronics (SEM-III)
(2019 Pattern)

Topic –

- 1) Network Theorem
- 2) Study of Transistors
- 3) Operational Amplifiers and application
- 4) Oscillators
- 5) Number System and Logic Gates

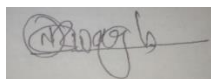
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Learning outcomes:

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

- Apply different theorems and laws to electrical circuits.
- Understand the relations in electricity.
- Understand the parameters, characteristics and working of transistors.
- Understand the functions of operational amplifiers.
- Design circuits using transistors and applications of operational amplifiers.
- Understand the Boolean algebra and logic circuits.




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Subject Teacher

Class- S.Y.B.Sc. (PHYSICS)
Subject- Oscillations Waves and Sound (SEM-IV)
(2019 Pattern)

Topic –

- 1) Undamped free oscillations
- 2) Damped oscillations
- 3) Forced oscillations
- 4) Wave motion
- 5) Sound and Doppler Effect

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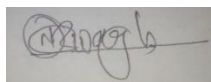
Learning Outcomes:

On completion of this course, the learner will be able:

- To study underlying principles of oscillations and its scope in development.
- To understand and solve the equations / graphical representations of motion for simple harmonic,
- damped, forced oscillators and waves.

To explain oscillations in terms of energy exchange with various practical applications.

- To solve numerical problems related to undamped, damped, forced oscillations and superposition
- of oscillations.
- To study characteristics of sound, decibel scales and applications.



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Subject Teacher

Class- S.Y.B.Sc. (PHYSICS)
Subject- Optics (SEM-IV)
(2019 Pattern)

Topic –

- 1) Geometrical Optics and Lens aberrations
- 2) Optical Instruments
- 3) Interference and Diffraction
- 4) Polarization

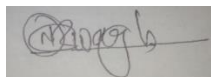
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Learning Outcomes:

On successful completion of this course the students will be able to acquire the basic concept of wave optics.

- Describe how light can constructively and destructively interfere.
- Explain why a light beam spread out after passing through an aperture
- Summarize the polarization characteristics of electromagnetic wave
- Understand the operation of many modern optical devices that utilize wave optics
- Understand optical phenomenon such polarization, diffraction and interference in terms of the wave
- Model Analyze simple example of interference and diffraction.



Subject Teacher



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