

## Department of Physics

### Study Material

### Semester-I (SEP)

The faculty of the Physics Department has prepared these class notes to facilitate the learning process for students. This collective effort serves as an effective summary of the university-prescribed syllabus. We are confident that it will be beneficial to the student community. The study material is supplemented with a variety of fully solved examples and illustrations. We hope that this resource will meet the needs of first-semester B.Sc. students for the academic year 2025-26 under the CBCS scheme. This study material covers the topics such as Vector algebra, Newton's Laws of Motion, Gravitation and Planetary motion, Work and Energy, Simple harmonic motion (SHM), Dynamics of Rigid bodies, and Surface tension of fluids, Viscosity of fluids and Introduction to Thermodynamics.

#### Editorial Committee:

- 1      **Dr. Siddalingeshwara B P**    MSc., B.Ed., PhD., HOD, Assistant Professor
- 2      **Mr. Suhas K N**                    MSc., GATE, (PhD), Assistant Professor
- 3      **Ms. Prakruthi V**                    MSc., Assistant Professor

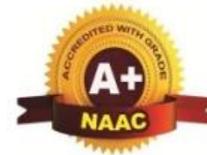
Theory	<b>Mechanics-I, Properties of Matter and Thermodynamics-I</b>	
<b>Maximum Marks: 100 (Semester End Exam:80Marks &amp; Internal Assessment: 20Marks)</b>		
Unit	Topic	Study Material Link
	Syllabus	<a href="#">Link</a>
I	Vector algebra	<a href="#">Link</a>
II	Work and Energy	<a href="#">Link</a>
III	Dynamics of Rigid bodies	<a href="#">Link</a>
IV	Introduction to Thermodynamics	<a href="#">Link</a>
	Question Bank	<a href="#">Link</a>
	Question Paper	<a href="#">Link</a>
	Sample of Scheme of Valuation 2024-25	<a href="#">Link</a>

Head of Department

Principal



**KLE Society's**  
**S. NIJALINGAPPA COLLEGE**  
II-Block, Rajajinagar, Bengaluru-10  
Permanently affiliated to Bengaluru City University, Bengaluru  
Re-accredited by NAAC at A<sup>+</sup> Grade in 4<sup>th</sup> Cycle



**Department of Physics**

**Study Material**

**Semester-III (SEP)**

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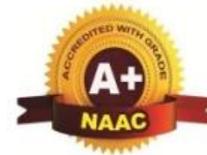
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<b>Theory</b>	<b>OPTICS - I, ELECTRICITY - I &amp; Electromagnetic Waves</b>	
<b>Maximum Marks: 100 (Semester End Exam:80Marks &amp; Internal Assessment: 20Marks)</b>		
<b>Unit</b>	<b>Topic</b>	<b>Study Material Link</b>
	<b>Syllabus</b>	<a href="#">Link</a>
<b>I</b>	<b>Interference</b>	<a href="#">Link</a>
<b>II</b>	<b>Diffraction</b>	<a href="#">Link</a>
<b>III</b>	<b>Network Theorems and Transient currents</b>	<a href="#">Link</a>
<b>IV</b>	<b>Scalars and Vector fields, Electromagnetic waves</b>	<a href="#">Link</a>
	<b>Question Bank</b>	<a href="#">Link</a>
	<b>Question Paper</b>	<a href="#">Link</a>

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**Department of Physics**  
**Study Material**  
**Semester-V, Paper-5 (NEP)**

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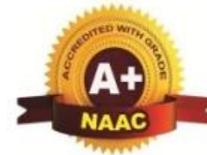
Theory	Classical Mechanics and Quantum Mechanics - 1	
<b>Maximum Marks: 100 (Semester End Exam: 60Marks &amp; Internal Assessment: 40Marks)</b>		
Unit	Topic	Study Material Link
	Syllabus	<a href="#">Link</a>
I	Introduction to Newtonian Mechanics	<a href="#">Link</a>
II	Relativity	<a href="#">Link</a>
III	Introduction to Quantum Mechanics	<a href="#">Link</a>
IV	Foundation of Quantum Mechanics	<a href="#">Link</a>
	Question Bank	<a href="#">Link</a>
	Question Paper	<a href="#">Link</a>
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**Department of Physics**  
**Study Material**  
**Semester-V, Paper-6 (NEP)**

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Theory	Elements of Atomic, Molecular & Laser Physics	
Maximum Marks: 100 (Semester End Exam: 60Marks & Internal Assessment: 40Marks)		
Unit	Topic	Study Material Link
	Syllabus	<a href="#">Link</a>
I	Basic Atomic models	<a href="#">Link</a>
II	Vector atomic model and optical spectra	<a href="#">Link</a>
III	Molecular Physics	<a href="#">Link</a>
IV	Laser Physics	<a href="#">Link</a>
	Question Bank	<a href="#">Link</a>
	Question Paper	<a href="#">Link</a>
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