

Physics department

(Lesson plan odd sem 2024-25)

Class	BSc 1 <sup>st</sup> sem		BSc 3 <sup>rd</sup> sem	BSc 5 <sup>th</sup> sem	
Name of teacher/paper	Ms. Pervinder kaur (Life science)	Ms. Jagjit kaur (Physical science)	Ms. Pervinder kaur (physical and life science)	Ms. Pervinder kaur (Quantum and laser)	Ms. Jagjit kaur (Nuclear physics)
22.07.24-31.07.24	Vector background	Vector background	Introduction of thermodynamics	Origin of quantum physics	Nuclear structure
01.08.24-15.08.24	Electric field	Electric field	Thermodynamics -I	Quantum physics	Properties of Nuclei
16.08.24-31.08.24	Magnetic field	Magnetic field	Thermodynamics -I	Schrodinger wave equation	Nuclear radiation decay processes
01.09.24-15.09.24	Magnetic properties	Magnetic properties OF MATTER	Thermodynamics -II	Applications of Schrodinger wave equation	Nuclear radiation decay processes
16.09.24-30.09.24	Time varying electromagnetic fields	Time varying electromagnetic fields	Thermodynamics -II	Laser physics I	Nuclear accelerators
01.10.24-15.10.24	Time varying electromagnetic waves	Time varying electromagnetic waves	Statistical -I	Laser physics I	Nuclear accelerators
16.10.24-31.10.24	DC Circuit	DC Circuit	Statistical -I&II	Laser physics II	Nuclear reactions
01-11-24-22.11.24	AC circuit	AC circuit	Statistical -II	Laser physics II	Nuclear reactions

Pervinder kaur

Sanjiv



Subject	Physics (Minor)		
Semester	1 <sup>st</sup>		
Name of the Course	Elementary Mechanics		
Course Code	B23-PHY-103		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> <li>1) Understand the dynamics of system of particles, Determination of moment of inertia using Theorems of parallel and perpendicular axis. Application of both translational and rotational dynamics motions simultaneously in analyzing rolling with slipping</li> <li>2) Differentiate between elastic and plastic bodies. Elastic constants, determination and their physical significance. Torque and its significance in rotatory motion</li> <li>3) Familiar about the special theory of relativity and its applications. Michelson's Morley experiment and its findings.</li> <li>4) Analyze the two body Central Force problem and its applications</li> <li>5. Learn to present observations, results, analysis and different concepts related to experiments of Mechanics</li> </ol>		
Credits	Th eor y	Practical	Total
	1	1	2
Contact Hours	1	2	3
<b>Max. Marks:50</b> <b>Internal Assessment Marks:15</b> <b>End Term Exam Marks: 35</b>	<b>Time:3hrs</b>		
<b>Internal Assessment:</b> <b>&gt; Theory (10 Marks)</b> <ul style="list-style-type: none"> <li>• Class Participation: 04 Marks</li> <li>• Seminar/presentation/assignment/quiz/class test etc.: Nil</li> <li>• Mid-Term Exam: 6 Marks</li> </ul> <b>&gt; Practicum (5 Marks)</b> <ul style="list-style-type: none"> <li>• Class Participation: Nil</li> <li>• Seminar/Demonstration/Viva-voce/Lab records etc.: 5 Marks</li> <li>• Mid-Term Exam: Nil</li> </ul>	<b>End Term Examination:</b> <b>20 Marks</b>  <b>15 Marks</b>		

Subject	Physics (2 <sup>nd</sup> year)		
Semester	3 <sup>rd</sup>		
Name of the Course	Thermodynamics & Statistical Physics		
Course Code	B23-PHY-301		
Course Learning Outcomes(CLO):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> <li>1. Understand and describe the basic concepts and laws of thermodynamics</li> <li>2. Apply the laws of thermodynamics to develop Maxwell's thermodynamic relations be able to understand their physical interpretations</li> <li>3. Appreciate cellular nature of phase space and Have better knowledge of classical statistics which would result in greater insight into solutions of various complex problems</li> <li>4. Have better understanding of quantum statistics and are in a position to extend the treatment to the analysis of complex problems</li> <li>5. Learn to present observations, results, analysis and different concepts of experiments related to Thermodynamics &amp; Statistical Physics</li> </ol>		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3	2	5
<b>Max. Marks:100</b> <b>Internal Assessment Marks:30</b> <b>End Term Exam Marks: 70</b>	<b>Time:3hrs</b>		
<b>Internal Assessment:</b> <b>&gt; Theory (20 Marks)</b> <ul style="list-style-type: none"> <li>• Class Participation: <b>05 Marks</b></li> <li>• Seminar/presentation/assignment/quiz/class test etc.: <b>05 Marks</b></li> <li>• Mid-Term Exam: <b>10 Marks</b></li> </ul> <b>&gt; Practicum (10 Marks)</b> Class Participation: Nil <ul style="list-style-type: none"> <li>• Seminar/Demonstration/Viva-voce/Lab records etc.: <b>10 Marks</b></li> <li>• Mid-Term Exam: Nil</li> </ul>	<b>End Term Examination : 50 Marks</b> <b>20 Marks</b>		

**B.Sc.- III(Physics)  
Semester-V**

**Physics- PH-501  
Paper VII: quantum and laser physics**

**Max.Marks:40  
Internal assessment:10  
Time:3 Hours**

**Course learning outcomes:-**

- 1) Students can get to know about origin of Quantum Physics, photoelectric effect, Compton Effect, Schrödinger wave equations etc.
- 2) Students learn about applications of Schrodinger wave equations.
- 3) Students learn about kinematics of LASER, applications of laser, properties of LASER
- 4) Students get to know about different types of laser.

**B.Sc.- III(Physics)  
Semester-V**

**Physics- PH-502  
Paper VIII: Nuclear Physics**

**Max.Marks:40  
Internal assessment:10  
Time:3 Hours**

**Course learning outcomes:-**

- 1) Students learn about Nuclear Structure and Properties of Nuclei in details.
- 2) Students learn about various Nuclear Radiation decay Processes.
- 3) Students get to know about working of various Nuclear Accelerators and Nuclear Radiation Detectors.
- 4) Students learn about various types of Nuclear reactions and nuclear reactors.

<b>Subject</b>	<b>Physics</b>		
<b>Semester</b>	<b>1st</b>		
<b>Name of the Course</b>	<b>Physics Fundamentals –I</b>		
<b>Course Code</b>	<b>B23-PHY-104</b>		
<b>Course Learning Outcomes(CLO):</b>	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> <li>1. Have knowledge about the nature, scope and impact of physics on technological development of the society.</li> <li>2. Understand and describe motion of an object in one dimension.</li> <li>3. Understand and describe the laws of motion and their applications in daily life.</li> <li>4. Understand and appreciate the importance of laws of conservation of energy and momentum in daily life.</li> <li>5. Learn to present observations, results, analysis and different concepts related to experiments of Physics Fundamentals –I</li> </ol>		
<b>Credits</b>	<b>Theory</b>	<b>Practical</b>	<b>Total</b>
	2	1	3
<b>Contact Hours</b>	2	2	4
<b>Max. Marks:75</b> <b>Internal Assessment Marks:20</b> <b>End Term Exam Marks: 55</b>		<b>Time:3hrs</b>	
<b>Internal Assessment:</b> > <b>Theory (15 Marks)</b> <ul style="list-style-type: none"> <li>• <b>Class Participation: 04 Marks</b></li> <li>• <b>Seminar/presentation/assignment/quiz/class test etc.: 04 Marks</b></li> <li>• <b>Mid-Term Exam: 7 Marks</b></li> </ul> > <b>Practicum (5 Marks)</b> <ul style="list-style-type: none"> <li>• <b>Class Participation: Nil</b></li> <li>• <b>Seminar/Demonstration/Viva-voce/Lab records etc.: 5 Marks</b></li> <li>• <b>Mid-Term Exam: Nil</b></li> </ul>		<b>End Term Examination: 35 Marks</b>  <b>: 20 Marks</b>	

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<b>Subject</b>		<b>Physics (2nd year)</b>	
<b>Semester</b>		<b>3rd</b>	
<b>Name of the Course</b>		<b>Elements of modern Physics(MDC)</b>	
<b>Course Code</b>		<b>B23-PHY-304</b>	
<b>Course Learning Outcomes(CLO):</b>		<p>After completing this course, the learner will be able to: 1)Have introductory idea about the importance of semiconductors and basic semiconductor devices</p> <p>2. Have the knowledge about the importance of magnetic materials</p> <p>3. Understand importance of radioisotopes, Nuclear fission and fusion reactions and their hazardous aspects also</p> <p>4. Have the knowledge about the lasers and optical fibers and their importance in scientific and technological fields</p> <p>5. Learn to present observations, results, analysis and different concepts related to experiments of Elements of modern Physics.</p>	
<b>Credits</b>	<b>Theory</b>	<b>Practical</b>	<b>Total</b>
	2	1	3
<b>Contact Hours</b>	2	2	4
<b>Max. Marks:75 Internal Assessment Marks:20 End Term Exam Marks: 55</b>		<b>Time:3hrs</b>	
<b>Internal Assessment:</b> > <b>Theory (15 Marks)</b> • <b>Class Participation: 04 Marks</b> • <b>Seminar/presentation/assignment/quiz/class test etc.: 04 Marks</b> • <b>Mid-Term Exam: 7 Marks</b> > <b>Practicum (5 Marks)</b> • <b>Class Participation: Nil</b> • <b>Seminar/Demonstration/Viva-voce/Lab records etc.: 5 Marks</b> • <b>Mid-Term Exam: Nil</b>		<b>End Term Examination: 35 Marks</b>  <b>: 20 Marks</b>	