



# ST. LAWRENCE HIGH SCHOOL

27, BALLYGUNGE CIRCULAR ROAD, KOLKATA - 700019



Session Plan/ Syllabus Coverage for the Academic Year 2025-2026

Subject: Physics

Term: 1<sup>st</sup>

Subject Co-ordinator: Soumitra Maity

Name of the Book: ISC Physics(Nootan)

No. of Working Days: 103

No. of Periods Available: 73

Class: XII

Sections: A

MONTH	NO. OF PERIODS	LESSONS	TOPICS COVERED	CLASS WORK	TEACHING AIDS
April	14	Electrostatics (Unit-I)(Pg No. -1)	Coulomb's Law Torque experienced by a dipole placed in an electric field Electric potential energy Gauss's Theorem & its applications in different cases. Capacitor, energy stored in a capacitor, Van-de-Graff generator, Dielectric polarization	Concepts related to all the subtopics will be discussed and different types of numericals will be solved from exercise Pg No. - 48, 90, 135, 197	Model demonstration on Gauss's theorem to find E for different cases  Model demonstration for the re-distribution of charge in capacitors.
		Current Electricity(Unit-II) (Pg No. -209)	Ohm's law, graphical explanation, internal resistance & p.d. & e.m.f. of a cell, combination of cells	Important points and notes related to topics will be given. Important questions and numerical will be discussed from exercise Pg No. -263	Experimentation to verify Ohm's Law.
May	9	Current Electricity(Unit-II) Continued(Pg No. -272)	Kirchhoff's law, Bridges and potentiometer.	Important points and notes related to topics will be given. Important questions and numerical will be discussed from exercise Pg No. -335	Experimentation of comparing emf by a potentiometer instrument.
		Magnetic effect of current & Magnetism(Unit-III) (Pg No. 338)	Oersted's experiment, Biot-Savat Law & its' applications, Ampere circuital law & its application, cyclotron principle, Torque experienced by a current loop in magnetic field.	Concepts related to all the subtopics will be discussed and different types of numericals will be solved from exercise Pg No. -403	Model demonstration of Oersted's experiments, and torque on a loop by a bar magnet and a conducting loop.
June	9	Magnetic effect of current & Magnetism(Unit-III) Continued(Pg No. -415)	Magnetism, Diamagnetic, Paramagnetic and ferromagnetic materials.	Important points and notes related to topics will be given. Important questions and numerical will be discussed from exercise Pg No. -439, 467, 489	Model demonstration on hysteresis.
		<b>Unit Test -1 begins from 16<sup>th</sup> June. Syllabus for Unit Test – 1: Electrostatics (Unit-I) ( Page no. 1 to 208)</b>			
July	18	Electromagnetic induction and A.C. (Unit-IV) (Pg No. -493)	Induction-Faraday's Law, Lenz's Law, Self Inductance and Mutual Inductance, $I_o, V_o, I_{r.m.s}, V_{r.m.s}$ & LCR Circuit,A.C.	Important points and notes related to topics will be given. Important questions and numerical will be discussed from exercise Pg No. -541, 614	Model demonstration on EM induction and ac circuit.
		Electromagnetic waves(Unit-V) (Pg No. -629)	ELECTROMAGNETIC SPECTRUM,E.B.C,DIFFERENT SOURCES OF E.M. WAVES, THEIR USES, Displacement current, Amperes circuital law	Important points and notes related to topics will be given. Important questions and numerical will be discussed from exercise Pg No. -655	Model demonstration of EM wave as E-component and B-component.
Aug	16	Ray Optics(Unit-VI) (Pg No. -665)	Spherical mirror, Refraction of light, Refraction at Spherical surfaces, Lenses & its related fact prism, scattering, Raman Effect. Optical Instrument – Microscope, telescope & m.	Concepts related to all the subtopics will be discussed and different types of numericals will be solved from exercise Pg No. -688, 721, 777	Experimentation by concave mirror to find image at different u.
		Wave Optics(Unit-VI) (Pg No. 849)	Interference, Diffraction	Concepts related to all the subtopics will be discussed and numerical will be discussed from exercise Pg No. -860, 890	Model demonstration on superimposition of waves.
Sept	7	Revision Electrostatics (Unit-I)	Gauss's Theorem & its applications in different cases.	Previous year's Board's papers will be discussed.	
<b>Syllabus for 1<sup>st</sup> term examination - Electrostatics (Unit-I), Current Electricity(Unit-II), Magnetic effect of current &amp; Magnetism(Unit-III), Electromagnetic induction and A.C. (Unit-IV), Electromagnetic waves(Unit-V), Ray Optics and Wave Optics (Unit-VI).</b>					

Teachers are requested to prepare a LESSON PLANS for each Topic month wise.

Signature of the Co-Teachers: *Soumitra Maity*

PRINCIPAL:

Submitted on: *13.5.25*  
*21.04.2025*

Academic Co-Ordinator: *Soumak Chatterjee*

VICE PRINCIPAL:

*Raj*





# ST. LAWRENCE HIGH SCHOOL

27, BALLYGUNGE CIRCULAR ROAD, KOLKATA - 700019



Session Plan/ Syllabus Coverage for the Academic Year 2025-2026

Subject: Physics

Term: 2<sup>nd</sup>

Subject Co-ordinator: Soumitra Maity

Name of the Book: ISC Physics(Nootan)

No. of Working Days: 52

No. of Periods Available: 32

Class: XII

Sections: A

MONTH	NO. OF PERIODS	LESSONS	TOPICS COVERED	CLASS WORK	TEACHING AIDS
Oct	12	Dual nature of matter & radiation (Unit-VII) (Pg No. 936)	Einstein's photo electric enquiry: particle nature of light. Matter waves, de-Broglie relation	Concepts related to all the subtopics will be discussed and different types of numericals will be solved from exercise Pg No. 969, 990	Model demonstration on photo electric effect.
**** Last Date of Submission of Physics Project is 08.10.2025 ****					
Nov	16	Atoms & Nuclei (Unit-VIII) (Pg No. 999)	BOHR MODEL, H-SPECTRUM, X-RAYS, RADIOACTIVITY, DECAY-LAW, MASS ENERGY RELATION, MASS DEFECT, NUCLEAR FISSION AND FUSION	Important points and notes related to topics will be given. Important questions and numerical will be discussed from exercise Pg No. -1032, 1059, 1083, 1104	Model demonstration for mass defect and B.E. of atom.
		Electronic devices (unit-IX) (Pg No. 1108)	Semiconductor, I-V characteristics, Zener Diode	Concepts related to all the subtopics will be discussed and different types of numericals will be solved from exercise Pg No. 1124, 1152	Experimentation of nonlinear current through p-n diode and zener diode.
Dec Rehearsal Test begins on 08.12.25	4	Revision Magnetic effect of current & Magnetism (Unit-III) (Pg No. - 365)	Oersted's experiment, Biot-Savart Law & its' applications, Ampere circuital law & its application, cyclotron principle, Torque experienced by a current loop in magnetic field	Previous year's Board's papers will be discussed.	
<b>Syllabus for Rehearsal Test</b> – All the units discussed during the academic session ( i.e from Unit – I to Unit – IX)					

Teachers are requested to prepare a LESSON PLANS for each Topic month wise.

Signature of the Co-Teachers: 1. *Soumitra Maity* 2.

Submitted on: <sup>13.5.25</sup> ~~21.04.2025~~

Academic Co-ordinator: *Soumak Chatterjee*

PRINCIPAL

VICE PRINCIPAL

*R. Asy*