ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

Syllabus planning for the Academic Year 2021

TEACHERS' NAMES: Ambarnath Banerjee and Soumitra Maity

SUBJECT: Physics

CLASS: XII

SECTION: A2 and A1

NO. OF WORKING DAYS:

MONTH	LESSONS	TOPICS COVERED	HOME-WORK	CLASS-WORK
JANUARY				
FEBRUARY				
MARCH				
APRIL				
MAY				
JUNE				

Teachers are requested to prepare a LESSON PLAN for each Topic to be taught. The Lesson plans are to be submitted along with the monthly planner.

Name of the Teachers :   AMBARNATH BANERJEE   SOUMITRA MAITY

Signature of Teachers :   Soumitra Maity (15.03.21)

Submitted on : Jayashree Bhowpe 15/3/21

Academic Co-ordinator :

VICE PRINCIPAL   15/3/2021

PRINCIPAL

ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

Syllabus planning for the Academic Year 2021

TEACHERS' NAMES: Ambarnath Banerjee and Soumitra Maity

SUBJECT: PHYSICS   TERM: Pre-Test

CLASS: XII

SECTION: A2 and A1

NO. OF WORKING DAYS:- 49

MONTH	LESSONS	TOPICS COVERED	HOMEWORK	CLASS WORK
JULY **1st term starts on 05.07.21**	Electrostatics (Unit-I)	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	Theorem I:Field Intensity at a distance & for an electric dipole along its axis Verify τ =PXE 　　Few problems related to Gauss's Theorem Determination of capacitance for a parallel plate capacitor	**Explanation of Topics** **Understanding of the topics covered** **Graphical Explanation** **Few problems related to P.E** **Problems related to capacitors with circuit**
AUGUST	Current Electricity(Unit-II) Magnetic effect of current & Magnetism(Unit-III)	Ohm's law, graphical explanation, internal resistance & p.d. & e.m.f. of a cell, combination of cells Kirchhoff's law, Bridges and potentiometer Oersted's experiment, Biot-Savat Law & its' applications, Ampere circuital law & its application, cyclotron principle, Torque experienced by a current loop in uniform magnetic field	Estimation of main current flowing through & mixed circuit Verify τ=BinAsinθ	**Problems related to current electricity** **Explanation of theorems mentioned in the topics covered and related numerical**
SEPTEMBER **1ST TERM EXAM STARTS ON 16TH SEPTEMBER**	Magnetic effect of current & Magnetism(Unit-III) Electromagnetic induction (Unit-IV)	Magnetism Induction-Faraday's Law, Lenz's Law, Self Inductance and Mutual Inductance,	Working principle of Transformer	**Graphical explanations**
	SYLLABUS FOR 1ST TERM EXAM : Electrostatics (Unit-I), Current Electricity(Unit-II), Magnetic effect of current & Magnetism(Unit-III) AND Electromagnetic induction (Unit-IV)			

Teachers are requested to prepare a LESSON PLAN for each Topic to be taught. The Lesson plans are to be submitted along with the monthly planner.

Name of the Teachers :　　**AMBARNATH BANERJEE**　　　　**SOUMITRA MAITY**

Submitted on : Jayashree Shepe 15/3/21

Signature of Teachers :

Soumitra Maity (15.03.21)

Academic Co-ordinator :

VICE PRINCIPAL
15/3/2021

PRINCIPAL

ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

Syllabus planning for the Academic Year 2021

TEACHERS' NAMES: Ambarnath Banerjee and Soumitra Maity

SUBJECT: PHYSICS   TERM: Selection Test

CLASS: XII

SECTION: A2 and A1

NO. OF WORKING DAYS:- 73

MONTH	LESSONS	TOPICS COVERED	HOMEWORK	CLASS WORK
OCTOBER 2nd term starts on 01.10.21	A.C. (Unit-IV) Electromagnetic waves(Unit-V)	$I_o, V_o, I_{r.m.s}, V_{r.m.s}$ & LCR Circuit, A.C. ELECTROMAGNETIC SPECTRUM, E.B.C, DIFFERENT SOURCES OF E.M. WAVES, THEIR USES, BOHR MODEL, H-SPECTRUM,	SELECTED NUMERICALS FROM AC	RELATED THEORIES AND NUMERCALS WILL BE DISCUSSED
NOVEMBER	Optics(Unit-VI)	Spherical mirror, Refraction of light, Refraction at Spherical surfaces, Lenses & its related fact prism, scattering, Raman Effect Optical Instrument – Microscope, telescope & magnifying prism Wave Optics – Interference, Diffraction, Polarization	Verify lens formula, $1/v - 1/u = 1/f$ Verify mirror equation $= i/v + 1/u = 1/f$ Ray diagram for a real object & its' image through lens	Few problems related to lens & mirror Theorems related to lens and prism Interference
DECEMBER	Dual nature of matter & relation (Unit-VII) Atoms & Nuclei (Unit-VIII)	Einstein's photo electric enquiry: particle nature of light, Matter waves, de-Brogic relation X-RAYS, RADIOACTIVITY, DECAY-LAW, MASS ENERGY RELATION, MASS DEFECT, NUCLEAR FISSION AND FUSION	Establish Einstein's photo electric equation with quantum theory. Problems on X-Ray Wave Length	Explanation of photo electric effect. Few problems related to de-Broglie wave length. Increasing & decreasing order of E.M. Waves according to wavelength and frequency Nuclear Fission & Fusion equations and explanations Moseley's Law
	Last date of submission of Physics project – 06.12.21			
JANUARY 2022	Electronic devices (unit-IX) Communication System(Unit-X)	Semiconductor, I-V characteristics, Zener Diode, Transistor logic gates(OR, AND, NOT, NAND, NOR) BLOCK DIAGRAM, SKY AND SPACE WAVE PROPAGATION, MODULATION	Draw logic gate circuit symbols with Truth Table. Flow chart of Block Diagram for communication system	I-V graphs of semiconductors & Transistor
FEBRUARY 2022 2nd term exam starts on 17.02.22	Revision of entire syllabus			
	SYLLABUS FOR 2nd TERM EXAM : The entire portion completed in this academic year.			

Teachers are requested to prepare a LESSON PLAN for each Topic to be taught. The Lesson plans are to be submitted along with the monthly planner.

Name of the Teachers :   AMBARNATH BANERJEE   SOUMITRA MAITY

Soumitra Maity (15.03.21)

Signature of Teachers :

PRINCIPAL

Submitted on : Jayashree Sherpa 15/3/21

Academic Co-ordinator :

VICE PRINCIPAL 15/3/2021