ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

Syllabus planning for the Academic Year 2020

SUBJECT: Physics   **TERM:** Pre-Test

TEACHERS' NAMES: Ambarnath Banerjee and Soumitra Maity

NO. OF WORKING DAYS:- 4   **NO. OF PERIODS AVAILABLE:** 4

CLASS: XII SECTION: A2 and A1

MONTH	NO. OF PERIODS	LESSONS	TOPICS COVERED	HOME-WORK	CLASS-WORK
JANUARY					
FEBRUARY					
MARCH					
APRIL	4	Electrostatics(Unit-I)	i. Coulomb's Law ii. Torque experienced by a dipole placed in an electric field	i. Theorem I:Field Intensity at a distance & for an electric dipole along its axis	i. Explanation of Topics ii. Understanding of the topics covered

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 : AMBAR NATH BANERJEE, SOUMITRA MAITY

Signature of Teachers : Ambar nath Banerjee, Soumitra Maity
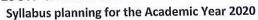(27.01.20)   (27.01.20)

Submitted on : 27.01.2020.

Academic Co-ordinator : J. Sherpa 28/1/2020

PRINCIPAL

VICE PRINCIPAL 28/2/2020

ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

Syllabus planning for the Academic Year 2020

SUBJECT: PHYSICS   TERM: Pre-Test

TEACHERS' NAMES: Ambarnath Banerjee and Soumitra Maity

NO. OF WORKING DAYS:-70   **NO. OF PERIODS AVAILABLE: 48**

CLASS: XII SECTION: A2 and A1

MONTH	NO. OF PERIODS	LESSONS	TOPICS COVERED	HOMEWORK	CLASS WORK
MAY	8	Electrostatics(Unit I)	i. Electric potential energy ii. Gauss's Theorem & its applications in different cases.	i. Verify τ =PXE ii. Few problem's related to Gauss's Theorem	i. Graphical Explanation ii. Few problems related to P.E
JUNE	8	1. Electrostatics (Unit-I) 2. Current Electricity(Unit-II)	i. Capacitor, energy stored in a capacitor, Van-de-Graff generator ii. Dielectric iii. Ohm's law, graphical explanation, internal resistance & p.d. & e.m.f. of a cell, combination of cells iv. Kirchhoff's law, Bridges and potentiometer	i. Determination of capacitance for a parallel plate capacitor ii. Estimation of main current flowing through & mixed circuit	i. Problems related to current electricity ii. Problems related to capacitors with circuit
JULY	24	1. Magnetic effect of current & Magnetism(Unit-III) 2. Electromagnetic induction & A.C. (Unit-IV) All the above mentioned topics are included for PRE-TEST EXAMINATION	i. 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 ii. Magnetism iii. 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.	i. Verify τ=BinAsinθ ii. Working principle of Transformer	i. Explanation of theorems mentioned in the topics covered and related numerical ii. Graphical explanations
AUGUST	8	1. Electromagnetic waves(Unit-V) 2. Atoms & Nuclei (Unit-VIII) 3. Communication System(Unit-X) 3rd August Pre-Test for Class XII starts	ELECTROMAGNETIC SPECTRUM,E.B.C,DIFFERENT SOURCES OF E.M. WAVES, THEIR USES,BOHR MODEL,H-SPECTRUM, X-RAYS,RADIOACTIVITY,DECAY-LAW,MASS ENERGY RELATION,MASS DEFECT,NUCLEAR FISSION AND FUSION,BLOCK DIAGRAM,SKY AND SPACE WAVE PROPAGATION,MODULATION	i. Find out relation among E_o, B_o & C ii. Problems on X-Ray Wave Length iii. Flow chart of Block Diagram for communication system	i. Increasing & decreasing order of E.M. Waves according to wavelength and frequency ii. Nuclear Fission & Fusion equations and explanations iii. Moseley's Law

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Name of the Teachers : AMBAR NATH BANERJEE. SOUMITRA MAITY

Signature of Teachers : Ambarnath Banerjee, Soumitra Maity
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PRINCIPAL

Submitted on : 27.01.2020.

Academic Co-ordinator : J. Sherpe 28/1/2020

VICE PRINCIPAL

ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

Syllabus planning for the Academic Year 2020

SUBJECT: PHYSICS   TERM: Selection Test

TEACHERS' NAMES: Ambarnath Banerjee and Soumitra Maity

NO. OF WORKING DAYS:-58   **NO. OF PERIODS AVAILABLE: 38**

CLASS: XII SECTION: A2 and A1

MONTH	NO. OF PERIODS	LESSONS	TOPICS COVERED	HOMEWORK	CLASS WORK
SEPTEMBER	20	Optics(Unit-VI) 5th October last date of submission of project (rendered: 5th October last date of submission of project)	i. Spherical mirror, Refraction of light, Refraction at Spherical surfaces, Lenses & its related fact prism, scattering, Raman Effect ii. Optical Instrument – Microscope, telescope & magnifying prism iii. Wave Optics	i. Verify lens formula, $1/v - 1/u = 1/f$ ii. Verify mirror equation $= i/v + 1/u = 1/f$ iii. Ray diagram for a real object & its' image through lens	i. Few problems related to lens & mirror ii. Theorems related to lens and prism iii. Interference
OCTOBER	10	i. Dual nature of matter & relation (Unit-VII) ii. Electronic devices (unit-IX) iii. Full Syllabus completed	i. Einstein's photo electric enquiry: particle nature of light, Matter waves, de-Brogic relation ii. Semiconductor, I-V characteristics, Zener Diode, Transistor logic gates(OR,AND,NOT,NAND,NOR)	i. Establish Einstein's photo electric equation with quantum theory. ii. Draw logic gate circuit symbols with Truth Table.	i. Explanation of photo electric effect. Few problems related to de-Broglie wave length. ii. I-V graphs of semiconductors & Transistor
NOVEMBER	8	i. Revision of entire syllabus 18ND NOVEMEBER SELECTION TEST FOR CLASS XII STARTS (On Full Syllabus) (rendered: 18ND NOVEMEBER SELECTION TEST FOR CLASS XII STARTS (On Full Syllabus))			
DECEMBER					

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Name of the Teachers : AMBAR NATH BANERJEE, SOUMITRA MAITY

Signature of Teachers : *Ambarnath Banerjee, Soumitra Maity*
(27.01.20)   (27.01.20)

Submitted on : 27. 01. 2020.

Academic Co-ordinator : *J. Sherpa 28/1/2020*

PRINCIPAL

VICE PRINCIPAL *28/2/2020*