ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

Syllabus Planner for the year 2018   TERM: Pre-Test   TEACHER`S NAME: AMBARNATH BANERJEE (SECTION –A1)

No. of working days:- 73   No. of periods available: 48   Subject: .Physics.   CLASS: XII   SOUMITRA MAITY (SECTION –A2)

MONTH	NO. OF PERIODS	LESSONS	TOPICS COVERED	HOMEWORK	CLASS WORK
MAY	6	Electrostatics (Unit-I)	i. Coulomb's Law ii. Torque experienced by a dipole placed in an electric field iii. Electric potential energy iv. Gauss's theorem & its applications in different cases	i. Theorem-I : Field intensity at a distance & for an electric dipole along its' axis ii. Verify, $\tau = P \times E$ iii. Few problems related to Gauss's theorem	i. Explanation of Topics ii. Understandings of the topics covered iii. Graphical explanation iv. Few problems related to P.E
JUNE	14	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	16	1. Magnetic effect of current & Magnetism(Unit-III) 2. Electromagnetic induction & A.C. (Unit-IV) 26th JULY PRETEST FOR CLASS XII STARTS	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 $\tau = BinA\sin\theta$ ii. Working principle of Transformer	i. Explanation of theorems mentioned in the topics covered and related numerical ii. Graphical explanations
AUGUST	12	1. Electromagnetic waves(Unit-V) 2. Atoms & Nuclei (Unit-VIII) 3. Communication System(Unit-X)	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

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.

PRINCIPAL

Submitted on: 19.01.18

Signature of Teacher: Ambarnath Banerjee   Soumitra Maity.

ACADEMIC CO- ORDINATOR

19/1/18.

St. Lawrence High School

VICE PRINCIPAL

19/01/18

ST. LAWRENCE HIGH SCHOOL

A JESUIT CHRISTIAN MINORITY INSTITUTION

Syllabus Planner for the year 2018   TERM: Selection Test   TEACHER`S NAME: AMBARNATH BANERJEE (SECTION –A1)

No. of working days:- 54   No. of periods available: 27   Subject: .Physics.   CLASS: XII   SOUMITRA MAITY (SECTION –A2)

MONTH	NO. OF PERIODS	LESSONS	TOPICS COVERED	HOMEWORK	CLASS WORK
SEPTEMBER	15	Optics(Unit-VI)	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	12	i. Dual nature of matter & relation (Unit-VII) ii. Electronic devices (unit-IX) 3RD OCTOBER SUBMISSION OF PROJECT	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		2ND NOVEMEBER SELECTION TEST FOR CLASS XII STARTS			

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.

PRINCIPAL   VICE PRINCIPAL 491 61/18

Submitted on: ......19.01.18.

Signature of Teachers......Ambarnath Banerjee, Soumitra Maity.

ACADEMIC CO- ORDINATOR   19/1/18

St. Lawrence High School