WEEKLY PLAN

Indian School Al Wadi Al Kabir - Syllabus break up for MARCH 2018 - PHYSICS

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| **Class** | Week3  14 -15 | Week4  18-22 | Week5  25-29 |
| CLASS XII  PHYSICS | **CHAPTER 1 : Electric charges and fields**  Introduction, electric charges, conductors and insulators, charging by induction, basic properties of electric charge, coulomb’s law. | Forces between multiple charges, electric field, electric field lines, electric flux, electric dipole, dipole in an uniform external field, continuous charge distribution, Gauss’s law, application of gauss’s law | **Electrostatic potential and capacitance**  introduction, electrostatic potential, potential due to point charge, potential due to electric dipole, potential due to system of charges, Equipotential surfaces, P.E of system of charges, P.E in an external field, electrostatics of conductors, dielectrics and polarization. |
| * **PRACTICAL:**  **Preparation for Investigatory projects.** | | | |

Syllabus break up for APRIL 2018

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| **Class** | **Week1**  1-5 | **Week2**  **8 -12** | **Week3**  **15 - 19** | **Week4**  **22 - 26** | **WEEK 5**  **29 - 30** |
| CLASS XII  PHYSICS | Capacitors and capacitance, the parallel plate capacitor, effect of dielectric on capacitance, combination of capacitors, energy stored in capacitors, van de Graaff Generator.  **Current electricity :** introduction, electric current, electric currents in conductors. | Ohm’s law, drift of electrons and the origin of resistivity, limitations of ohm’s law, resistivity of various materials, temperature dependence of resistivity, electrical energy, power, combination of resistors-series and parallel, cells,emf,internal resistance. | Cells in series and in parallel, kirchoff’s law, wheatstone bridge, meter bridge, potentiometer.  **Moving charges and magnetism**  Introduction, magnetic force, motion in a magnetic field | Motion in combined electric and magnetic fields, magnetic field due to a current element, Biot-savart law, magnetic field on the axis of a circular current loop, ampere’s circuital law, the solenoid and the toroid.force between two parallel currents , the ampere, torque on current loop, magnetic dipole, The moving coil galvanometer. | **Magnetism and matter**  Introduction, the bar magnet, magnetism and gauss’s law, the earth’s magnetism. |
| **PRACTICAL:** screw gaugeI, screw guage II, vernier calipers. | | | | | |

Syllabus break up for MAY 2018

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| **Class** | **Week 1**  1-3 | **Week 2**  6 – 10 | **Week 3**  **13-17** | **Week 4**  **20-24** | **WEEK 5**  **27 - 31** |
| CLASS XII  PHYSICS | Magnetization and magnetic intensity, magnetic properties of materials, permanent magnets and electromagnets, introduction.  **Electromagnetic induction**  Introduction, the experiments of faraday and Henry, magnetic flux, faraday’s law of induction. | Lenz’s law and conservation of energy, motional electromotive force, energy consideration: a quantitative study, eddy currents, inductance, ac generator.  **Alternating current**  Introduction, ac voltage applied to a resistor. | Representation of ac current and voltage by rotating vectors-phasors, ac voltage applied to an inductor, ac voltage applied to a capacitor, ac voltage applied to a series lcr circuits, power in ac circuit: the power factor.lc oscillations, transformers. | **UNIT TEST** | **UNIT TEST** |
| * **PROJECT BASED** * Practical: simple pendulum * Investigatory projects **Submission of Experiment (written work)** | | | | | |
| * **SUMMER BREAK (From 03.06.18 to 31.07.18)** | | | | | |