Indian School Al Wadi Al Kabir - Syllabus break up for

MARCH- 2019

PHYSICS

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| CLASS XII | WEEK 1 | WEEK 2 | WEEK 3 | WEEK 4 | WEEK 5 |
| PHYSICS |  |  | 13th&14th  (two days) | 17th to 21  (Five days) | 24th to28.  (Five days) |
|  |  |  | Electric Charges; Conservation of charge, Coulomb’s law-force between two point charges, forces between multiple charges; superposition principle and continuous charge distribution. | Electric field, electric field due to a point charge.  Electric field lines, electric dipole, electric field due to a dipole, torque on a dipole in uniform electric field. | Electric flux, statement of Gauss’s theorem and its applications to find field due to infinitely long straight wire, uniformly charged infinite plane sheet  And uniformly charged thin spherical shell (field inside and outside).  Electric potential, potential difference, electric potential due to a point charge, a dipole and system of charges; |
| LAB TOPICS: NIL | | | | | |

Indian School Al Wadi Al Kabir - Syllabus break up for

**APRIL- 2019**

**physics**

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| **CLASS 12** | **WEEK 1** | **WEEK 2** | **WEEK 3** | **WEEK 4** | **WEEK 5** |
| **PHYSICS** | **31th to 4th**  **(Five days)** | **7th to 11th**  **(five days)** | **14th to 18th**  **(five days)** | **21th to 25th**  **(five days)** | **28th to 30th**  **(three days)** |
|  | equipotential surfaces, electrical potential energy of a system of two point  Charges and of electric dipole in an electrostatic field.  Conductors and insulators, free charges and bound charges inside a conductor  Dielectrics and electric polarization | capacitors and capacitance, combination of capacitors in series and in parallel,  capacitance of a parallel plate capacitor with and without dielectric medium between the plates, | energy  stored in a  Capacitor. Electric current, flow of electric charges in a metallic conductor, drift velocity, mobility and their relation with electric current; Ohm’s law, electrical resistance, V-I characteristics (linear and  non-linear), electrical energy and power, | Electrical resistivity and conductivity.  Carbon.  resistors, colour code for carbon resistors; series and parallel combinations of resistors; temperature  Dependence of resistance, Internalresistance of a cell, potential difference and emf of a cell, combination of cells in series and in parallel. Kirchhoff’s laws and simple applications.  Wheatstone | Bridge, meter bridge, Potentiometer - principle and its applications to measure potential difference and for comparing emf of two cells; measurement of internal resistance of a cell. |
| **LAB TOPICS: 1. OHM’S LAW**  **2. CONVEX LENS**  **3. METER BRIDGE-1** | | | | | |

Indian School Al Wadi Al Kabir - Syllabus break up for

**MAY- 2019**

**PHYSICS**

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| **CLASS 12** | **WEEK 1** | **WEEK 2** | **WEEK 3** | **WEEK 4** | **WEEK 5** |
| **PHYSICS** | **1st & 2th**  **(two days)** | **5th & 9th**  **(five days)** | **12th & 16th**  **(five days)** | **19th & 23th**  **(five days)** | **26th & 30th**  **(five days)** |
|  | Concept of magnetic field, Oersted’s experiment. Biot –Savart law and its application to current carrying circular loop. Ampere’s law and its applications to infinitely long straight wire. Straight and toroidal solenoids. Force on a moving charge in uniform magnetic and electric fields. | Cyclotron. Force on a current-carrying conductor in a uniform magnetic field. Force between two parallel current-carrying conductors-definition of ampere. Torque experienced by a current loop in uniform magnetic field,  Moving coil galvanometer-its current sensitivity and conversion to ammeter and voltmeter. | Current loop as a magnetic dipole and its magnetic dipole moment Magnetic dipole moment of a revolving electron. Magnetic field intensity due to a magnetic dipole (bar magnet) along its axis and perpendicular to its axis.  Torque on a magnetic dipole (bar magnet) in a uniform magnetic field; bar magnet as an equivalent solenoid, magnetic field lines | . Earth’s magnetic field and magnetic elements.  Para- dia- and Ferro - magnetic substances, with examples. Electromagnets and factors affecting their strengths. Permanent magnets  **UNIT TEST 1** | Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Eddy currents. Self and mutual induction. |
| **LAB TOPICS: 4. POTENTIOMETER-1**  **5.GLASS PRISM**  **6.GALVANOMETER** | | | | | |

Prepared by the class coordinator: Mr. William S HOD - SCIENCE