WEEKLY PLAN

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

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| **Class** | Week 11-2 | Week 2 5 – 9  | Week 3 12 - 16 | Week 4 19 - 23 | Week 5 26 - 30 |
| CLASS XII | Electromagnetic induction; Faraday's laws, induced EMF and current; Lenz's Law, Eddy currents. Self and mutual induction.  | Alternating currents, peak and RMS value of alternating current/voltage; reactance and impedance; er.LC oscillations (qualitative treatment only),LCR series circuit,resonance;power in AC circuits, wattless current. AC generator andtransformer.Electromagnetic waves .Need for displacement current, Electromagnetic waves and their characteristics (qualitative ideas only).Transverse nature of electromagnetic waves.Electromagnetic spectrum (radio waves, microwaves, infrared, visible, ultraviolet, X-rays, gamma rays | ) including elementary facts about their uses.Reflection of light, spherical mirrors, mirror formula. Refraction of light, total internal reflection and its applications, optical fibres, refraction at spherical surfaces, lenses, thin lens formula, lensmaker's formula..Magnification, power of a lens,combination of thin lenses in contact, combination of a lens and a mirror | .Refraction and dispersion of light through a prism. Scattering of light - blue colour of sky and reddish appearance of the sun at sunrise and sunsetOptical instruments: Microscopes & astronomical telescopes (reflecting and refracting) and their magnifying powers.Wave front and Huygen's principle, reflection & refraction of plane wave at a plane surface using wave fronts. | Proof of laws of reflection and refraction using Huygen's principleInterference, Young's double slit experiment and expression for fringe width, coherent sources and sustained interference of light. Diffraction due to a single slit, width of central maximum. |
| * **PRACTICAL: Submission of project**
* **CYCLE 2- REPEATATION**
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Indian School Al Wadi Al Kabir - Syllabus break up for SEPTEMBER 2018 - PHYSICS

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| **Class** | Week 1 2 – 6  | Week 2 9 - 13 | Week316 - 20 | Week 4 23 – 30  |
| CLASS XII | Resolving power of microscopes and astronomical telescope. Polarisation, plane polarised light, Brewster's law, uses of plane polarised light and PolaroidsDual Nature of Matter and Radiation Dual nature of radiation. Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of lightMatter waves-wave nature of particles, de Broglie relation. Davisson-Germer experiment (experimental details should be omitted; only conclusion should be explained). | **REVISION****ASSESSMENT I** | **ASSESSMENT I** | **ASSESSMENT I** |
| * **CYCLE 3**

[7] METRE BRIDGE-11[8] POTENTIOMETER-11[9] CONCAVE MIRROR |

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

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| **Class** | Week 11 - 4 | Week 27 - 11 | Week 314 - 18 | Week 421 – 25  | Week 528 - 31 |
| CLASS XII | Atom and NucleiAlpha-particle scattering experiment; Rutherford's model of atom; .;  | Bohr model, energy levels, hydrogen spectrum.. Composition and size of nucleus, Radioactivity, alpha, beta and gamma particles/rays and their properties; radioactive decay lawMass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear fusion | SemiconductorsEnergy bands in solids (Qualitative ideas only) conductor, insulator and semiconductor;semiconductor diode - I-V characteristics in forward and reverse bias, diode as a rectifierI-VCharacteristics of LED | , photodiode, solar cell, and Zener diode; Zener diode as a voltage regulator.Junction transistor, transistor action, characteristics of a transistor, transistor as an amplifier (common emitter configuration). | Logic gates (OR, AND, NOT, NAND and NOR). Elements of a communication system (block diagram only); bandwidth of signals (speech, TV and digital data); bandwidth of transmission medium |
| 10] SEMICONDUCTOR DIODE[11] TRAVELLING MICROSCOPE |  |  |

Indian School Al Wadi Al Kabir - Syllabus break up NOVEMBER 2018 - PHYSICS

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| **Class** | Week 1 1 – 8  | Week 211 - 15 | Week 318 - 22 | Week 425 - 29 |
| CLASS XII | Communication SystemPropagationof electromagnetic waves in the atmosphere, sky and space wave propagation. Need for modulation. Production and detection of an amplitude-modulatwave | **REVISION****SYLLABUS COMPLETION****15TH NOVEMBER****2018** | **REVISION** | **FIRST REHEARSAL EXAM STARTS FROM 25TH NOVEMBER 2018** |
| [12] LIQUID LENS[13]ZENER DIODE[14]GALVANOMETER[15] LENS COMBINATION |

Indian School Al Wadi Al Kabir - Syllabus break up DECEMBER 2018 - PHYSICS

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| **Class** | Week 1 2 - 6 | Week 29 - 13 | Week 316 - 20 | Week 423 - 27 | Week 5 30 / 31 |
| CLASS XII | **FIRST REHEARSAL EXAM** | **FIRST REHEARSAL EXAM****REVISION CLASSES BEGIN FROM 10TH DECEMBER 2018**  | **REVISION CLASSES** | **WINTER VACATION STARTS FROM 23RD DECEMBER 2018**  | **WINTER****VACATION** |

Indian School Al Wadi Al Kabir - Syllabus break up JANUARY 2019 - PHYSICS

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| **Class** | Week 1 1 – 3 | Week 26 - 10 | Week 313 - 17 | Week 420 - 24 | Week 5 27 - 31 |
| CLASS XII | **WINTER** **VACATION** | **REVISION CLASSES BEGIN FROM 9TH JANUARY 2019** | **SECOND REHEARSAL EXAM STARTS FROM 13TH JANUARY 2019** | **SECOND REHEARSAL EXAM** | **SECOND REHEARSAL EXAM ENDS ON 27TH JANUARY 2019****MOCK PRACTICAL EXAM.**  |

Indian School Al Wadi Al Kabir - Syllabus break up FEBRUARY 2019 - PHYSICS

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| **Class** | Week 23 – 7  | Week 310 - 14 | Week 417 - 21 | Week 424 - 28 |
| CLASS XII | **BOARD PRACTICAL EXAM STARTS FROM 4TH FEBRUARY 2019**  | **BOARD PRACTICAL EXAM**  | **REVISION** | **REVISION** |

Indian School Al Wadi Al Kabir - Syllabus break up MARCH 2019 - PHYSICS

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| **Class** | Week 11. 2
 | Week 2 3 – 7  | Week 310 - 14 | Week 417 - 21 | Week 524 - 28 |
| CLASS XII | **CBSE EXAM BEGINS** | **CBSE EXAM** | **CBSE EXAM** | **CBSE EXAM** | **CBSE EXAM** |