**Indian School Al Wadi Al Kabir - Syllabus break up for**

**AUGUST - 2019**

**pHysics**

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| CLASS XII | WEEK 1 | WEEK 2 | WEEK 3 | WEEK 4 | WEEK 5 |
| **pHysics** | July 31st & August 1st  (Two days) | 4th to 8th  (Five days) | 11th to 14th  (Four days) | 18th to 22nd  (Five days) | 25th to 29th  (Five days) |
| **JULY AND AUGUST** | 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 and transformer.  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 including elementary facts about their uses | Ray optics  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 sunset  Optical instruments: Microscopes & astronomical telescopes (reflecting and refracting) and their magnifying powers. | Wave optics  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 principle  Interference, 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 and Journal**  **CYCLE 2- REPEATATION** | | | | | |

Indian School Al Wadi Al Kabir - Syllabus break up for

**SEPTEMBER - 2019**

**pHysics**

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| **CLASS 12** | **WEEK 1** | **WEEK 2** | **WEEK 3** | **WEEK 4** | **WEEK 5** |
| **pHysics** | **1st to 5th**  **(Five days)** | **8th to 12th**  **(Five days)** | **15th to 19th**  **(Five days)** | **22nd to 26th**  **(Five days)** | **29th & 30th**  **(Two days)** |
| **SEPTEMBER** | Dual Nature of Matter and Radiation Photoelectric effect, Hertz and Lenard's observations; Einstein's photoelectric equation-particle nature of lightMatter waves-wave nature of particles, deBroglie relation. Davisson- | . Germer experiment  Atom and Nuclei  Alpha-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 | **ASSESSMENT I** | **ASSESSMENT I** | radioactive decay law  Mass-energy relation, mass defect; binding energy per nucleon and its variation with mass number; nuclear fission, nuclear fusion |
| **CYCLE-3**  [7] METRE BRIDGE-11 [8] POTENTIOMETER-11 [9] CONCAVE MIRROR | | | | | |

Indian School Al Wadi Al Kabir - Syllabus break up for

**OCTOBER - 2019**

**pHysics**

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| **CLASS 12** | **WEEK 1** | **WEEK 2** | **WEEK 3** | **WEEK 4** | **WEEK 5** |
| **pHysics** | **1st to 3rd**  **(Three days)** | **6th to 10th**  **(Five days)** | **13th to 17th**  **(Five days)** | **20th & 24th**  **(Five days)** | **27th & 31st**  **(Five days)** |
| **OCTOBER** | Semiconductors  Energy bands in solids (Qualitative ideas only) conductor, insulator and semiconductor; | semiconductor diode - I-V characteristics in forward and reverse bias, diode as a rectifier  I-Characteristics 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 | **COMMUNICATION**  Communication System  Propagation of electromagnetic waves in the atmosphere, |
| **CYCLE-4**  [10] SEMICONDUCTOR DIODE[11] TRAVELLING MICROSCOPE [12] LIQUID LENS | | | | | |

Indian School Al Wadi Al Kabir - Syllabus break up for

**november - 2019**

**pHysics**

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| CLASS XII | WEEK 1 | WEEK 2 | WEEK 3 | WEEK 4 |
| **pHysics** | **3rd to 7th**  (Five days) | 10th to 14th  (Five days) | 17th to 21st  (Five days) | 24th to 28th  (Five days) |
| **NOVEMBER** | sky and space wave propagation.  Need for modulation. | Production and detection of an amplitude-modulated wave | **REVISION** | **REHERSAL 1** |
| **CYCLE-5**  [13]ZENER DIODE [14]GALVANOMETER[15] LENS COMBINATION | | | | |

Indian School Al Wadi Al Kabir - Syllabus break up for

**DECEMBER - 2019**

**pHysics**

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| CLASS XII | WEEK 1 | WEEK 2 | WEEK 3 | WEEK 4 | WEEK 5 |
| **pHysics** | 1st to 5th  (Five days) | 8th to 12th  (Five days) | 15th to 19th  (Five days) | 22nd to 26th  (Five days) | 29th to 31st  (Three days) |
| **DECEMBER** | **REHERSAL 1** | **REVISION** | **REVISION** | **WINTER VACATION** | **WINTER VACATION** |
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Indian School Al Wadi Al Kabir - Syllabus break up for

**JANUARY - 2020**

**pHysics**

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| CLASS XII | WEEK 1 | WEEK 2 | WEEK 3 | WEEK 4 | WEEK 5 |
| **pHysics** | 1st to 7th | 8th & 9th  (Two days) | 12th to 16th  (Five days) | 19th to 23rd  (Five days) | 26th to 30th  (Five days) |
| **JANUARY** | **WINTER VACATION** | **REHERSAL 2** | **REHERSAL 2** | **REHERSAL 2**  **MOCK PRACTICAL** | **MOCK PRACTICAL** |
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Indian School Al Wadi Al Kabir – Syllabus break up for

**FEBRUARY – 2020**

**pHysics**

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| CLASS XII | WEEK 1 | WEEK 2 | WEEK 3 | WEEK 4 |
| **pHysics** | 2nd to 6th  (Five days) | 9th to 13th  (Five days) | 16th to 20th  (Five days) | 23rd to 27th  (Five days) |
| **FEBRUARY** | **BOARD PRACTICAL EXAMS** | **BOARD PRACTICAL EXAMS**  **REVISION** | **REVISION** | **REVISION** |
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Indian School Al Wadi Al Kabir - Syllabus break up for

**march - 2020**

**pHysics**

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| CLASS XII | WEEK 1 | WEEK 2 | WEEK 3 | WEEK 4 | WEEK 5 |
| **pHysics** |  |  |  |  |  |
| **MARCH** | **BOARD EXAMINATIONS - THEORY** | | | | |
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Prepared by: Mr. WILLIAM **CHECKED BY : HOD-SCIENCE**