**PAI PARVAAZ DIVISION**

**YEAR 2018 - 2019**

**Links of Science and Technology**

**CLASS - IX (ENGLISH MEDIUM)** **Teacher’s Name: Fahim Ara Sk.**

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| Sr.no | Names of Lesson | Sub topic | Link |
| 1 | Laws of Motion | * -Displacement and distance * Speed and velocity * Acceleration * -Uniform circular motion   -Newton’s laws of motion  -Law of conservation of momentum | <https://www.youtube.com/watch?v=rOC2poJHSFY>  <https://www.youtube.com/watch?v=KQPQOVLoXpg>  <https://www.youtube.com/watch?v=vxFYfumAAlY>  <https://www.youtube.com/watch?v=CuLJLM0g94Y>  <https://www.youtube.com/watch?v=-ZbKiuoypd4>  <https://www.youtube.com/watch?v=xEl2AcnyvC4>  <https://www.youtube.com/watch?v=Onmfi-yt9DM> |
| 2 | Work and Energy | -Work  -Energy  -Mechanical energy  -Law of conservation of energy  -Free fall | <https://www.youtube.com/watch?v=i2MFGYuYm8E>  <https://www.youtube.com/watch?v=IqV5L66EP2E>  <https://www.youtube.com/watch?v=agwoD6ttNRg>  <https://www.youtube.com/watch?v=wBprdpu8z-k>  <https://www.youtube.com/watch?v=CmttxT1Wl1M>  <https://www.youtube.com/watch?v=6tiLCYDl3OI>  <https://www.youtube.com/watch?v=QLw1kk6p_sM>  <https://www.youtube.com/watch?v=rK71PSOxM_s>  <https://www.youtube.com/watch?v=KT6y1kn_xeU>  <https://www.youtube.com/watch?v=OkyUsF1MoCw>  <https://www.youtube.com/watch?v=coj7uRiqqf4>  <https://www.youtube.com/watch?v=z_sJ15feNGw> |
| 3 | Current Electricity | * Potential and potential difference * conductors and insulators   electrical resistance and Ohm’s Law  -connection of resistors and effective resistance | <https://www.youtube.com/watch?v=YHl3-n21xXI>  <https://www.youtube.com/watch?v=UHkLV3YRQnQ>  <https://www.youtube.com/watch?v=ZgDIX2GOaxQ>  <https://www.youtube.com/watch?v=kNuikunCt7I>  <https://www.youtube.com/watch?v=kBPbx3zMUwg>  <https://www.youtube.com/watch?v=iLzfe_HxrWI&t=32s>  <https://www.youtube.com/watch?v=F_vLWkkOETI>  <https://www.youtube.com/watch?v=lMWoDXJJugQ>  <https://www.youtube.com/watch?v=ZpQxHeEZjDM> |
| 4 | Measurement of Matter | * Laws of chemical combunation * Law of constantproportion * Atom- shape, mass,valency * Molecular mass and the concept of mole * radicals | <https://www.youtube.com/watch?v=KSZuSHX--Vw>  <https://www.youtube.com/watch?v=KSZuSHX--Vw>  <https://www.youtube.com/watch?v=pEX8S-s5VCw>  <https://www.youtube.com/watch?v=qT2LvbiprKg>  [www.youtube.com/watch?v=XIxS2C\_0tPc](http://www.youtube.com/watch?v=XIxS2C_0tPc)  <https://www.youtube.com/watch?v=FcIVPVLt2L4>  <https://www.youtube.com/watch?v=QLw1kk6p_sM>  <https://www.youtube.com/watch?v=AsqEkF7hcII>  <https://www.youtube.com/watch?v=brmP4jOrRiE>  <https://www.youtube.com/watch?v=-1kKUvfZRRs> |
| 5 | Acids, Bases and Salts | * Arrhenius theory of acids and bases * Concentration of an acid or a base * pH of a solution * pH of an acid and a base * Salts * Water of crystallization * Electrolysis of water | <https://www.youtube.com/watch?v=vwDSeabSd1M>  <https://www.youtube.com/watch?v=ej_8DABEVMQ>  <https://www.youtube.com/watch?v=J9JOrwUF7II>  <https://www.youtube.com/watch?v=Xeuyc55LqiY>  <https://www.youtube.com/watch?v=3x6X-YBBcfs>  <https://www.youtube.com/watch?v=gW9hUBB5Rl4>  <https://www.youtube.com/watch?v=suqmTWqC7Fw>  <https://www.youtube.com/watch?v=wDbB1v3A1SY> |
| 6 | Classification of Plants | * Kingdom plantae * Basis of classification * Cryptogams * Thallophyta * Bryophyta * Pteridophyta * Phanerogams * Sub-kingdom: Gymnosperms * Sub-kingdom: Angiosperms | <https://www.youtube.com/watch?v=vNdVlSqJojw>  <https://www.youtube.com/watch?v=kvtjFVgbicg>  <https://www.youtube.com/watch?v=SIxOqJWEYII>  <https://www.youtube.com/watch?v=Mvtm-215N5E>  <https://www.youtube.com/watch?v=AVzrTSbLXOU>  <https://www.youtube.com/watch?v=FmBZGx8fkp0>  <https://www.youtube.com/watch?v=zrTwihS89so>  <https://www.youtube.com/watch?v=30dxEVDtZ20>  <https://www.youtube.com/watch?v=NZASNyRWERk>  <https://www.youtube.com/watch?v=ufWWuHB3Ej4>  <https://www.youtube.com/watch?v=IenWODuqRtg>  <https://www.youtube.com/watch?v=AeRJ_JcQFc8>  <https://www.youtube.com/watch?v=n6daVHikI7Y> |
| 7 | Energy Flow in an Ecosystem | * Food chain and foodweb * The energy pyramid * Bio-geo-chemicalcycle * Carbon cycle * Oxygen cycle * Nitrogen cycle | <https://www.youtube.com/watch?v=PWp_ju4nZg0>  ttps://[www.youtube.com/watch?v=Cd1M9xD482s](http://www.youtube.com/watch?v=Cd1M9xD482s)  <https://www.youtube.com/watch?v=0glkXIj1DgE>  <https://www.youtube.com/watch?v=GL84S6G5ft0>  <https://www.youtube.com/watch?v=E8Y6L5TI_94>  <https://www.youtube.com/watch?v=mUVX5rg1E0I>  <https://www.youtube.com/watch?v=GANUtrndL_U>  <https://www.youtube.com/watch?v=LbBgPekjiyc>  <https://www.youtube.com/watch?v=HOpRT8BRGtk> |
| 8 | Useful and Harmful Microbes | * Useful Microorganisms   Lactobacilli,  Rhizobium  Yeast   * Harmful micro-organism:   Clostridium and Other | <https://www.youtube.com/watch?v=vKveGmvBFqk>  <https://www.youtube.com/watch?v=eiMyUl2E5Q8>  <https://www.youtube.com/watch?v=z-x12sUNVYg>  <https://www.youtube.com/watch?v=dCXdhczavGo>  <https://www.youtube.com/watch?v=vKveGmvBFqk&t=199s> |
| 9 | Environmental Management | Weather and climate  Meteorology  Solid waste management  Disaster management | [www.youtube.com/watch?v=7qLIAHXrP1g](http://www.youtube.com/watch?v=7qLIAHXrP1g)  <https://www.youtube.com/watch?v=KDkeC4eOp3c>  <https://www.youtube.com/watch?v=iL74V3RZ6eo>  <https://www.youtube.com/watch?v=BGXTy3na8so>  <https://www.youtube.com/watch?v=ADMQOXnW3Sk> |
| 10 | Information Communication Technology(ICT) | * Important components of a computer * Importance of information communication in science and technology * Different types of software * Opportunities in the field of computers | <https://www.youtube.com/watch?v=V9O2Jiqg5hE>  <https://www.youtube.com/watch?v=tXs5O1yGlg4>  <https://www.youtube.com/watch?v=tpR3JMnsOWo>  <https://www.youtube.com/watch?v=N70tyKDuIyE>  <https://www.youtube.com/watch?v=aLjRwg4otoA> |
| 11 | Reflection of Light | * Mirrors and types of mirrors * Spherical mirrors and images formed by them * Magnification due to spherical mirrors | <https://www.youtube.com/watch?v=plVN_Ef7dkk>  <https://www.youtube.com/watch?v=eY_VoB5VaGw>  <https://www.youtube.com/watch?v=T5sspQR4TIs&t=18s>  <https://www.youtube.com/watch?v=hyjDHxyMSCY>  <https://www.youtube.com/watch?v=7gIvYGeqnjw> |
| 12 | Study of Sound | * Sound waves * Velocity of sound * Reflection of sound * Sonar * Human ear, audible sound infrasound and ultrasound | <https://www.youtube.com/watch?v=KTzbt0NeCNc>  <https://www.youtube.com/watch?v=OtSpQoQE7BE>  <https://www.youtube.com/watch?v=1qw655p1zm0>  <https://www.youtube.com/watch?v=_H1abPcHFwk>  <https://www.youtube.com/watch?v=rYFydXHoK98>  <https://www.youtube.com/watch?v=C6ZQUmBg1eU>  <https://www.youtube.com/watch?v=4OC_2kgvNiI>  <https://www.youtube.com/watch?v=_tSiuRf-nTQ> |
| 13 | Carbon: An Important element | * Carbon : occurrence, properties, allotropes   Diamond   * Hydrocarbons * Carbondioide and methane-occurrence, properties, uses * Non crystalline form of carbon * Preparation of carbon dioxide * Physical and chemical properties of carbon dioxide * Fire extinguisher * Methane - occurence physical and chemical properties, uses * Biogas plant | <https://www.youtube.com/watch?v=mGnC4BlsXEI>  <https://www.youtube.com/watch?v=w_3fvq4EYpE>  <https://www.youtube.com/watch?v=3fcNUoWuX2A>  <https://www.youtube.com/watch?v=1UE3hZ7cOP0>  <https://www.youtube.com/watch?v=Dx4504u6MBk>  <https://www.youtube.com/watch?v=j0suPpZAjwM>  <https://www.youtube.com/watch?v=8zF7nKX6wOY>  <https://www.youtube.com/watch?v=0sQCSB1j3cw>  <https://www.youtube.com/watch?v=kfe_72ysJYE>  <https://www.youtube.com/watch?v=rdKZLqTDeXA>  <https://www.youtube.com/watch?v=3kKC7uJ7pM4>  <https://www.youtube.com/watch?v=24Zxr2KHW6s> |
| 14 | Substances in Common Use | * Important salts in day to day life-Nacl, NaHCO3,Na2CO3 * Radioactive substances | <https://www.youtube.com/watch?v=tZ4lXxxcuwU>  <https://www.youtube.com/watch?v=6VT8eIMNLoU>  <https://www.youtube.com/watch?v=lbahel5bQDA>  <https://www.youtube.com/watch?v=VTHQYjkCqV0> |
| 15 | Life Processes in Living Organisms | * Transportation in Plant * Excretion : Plants, * Excretion Animals and * Humans * Co-ordination in human being * Central nervous system * Peripheral nervous system * chemical control | <https://www.youtube.com/watch?v=bvPM6sfidY4>  <https://www.youtube.com/watch?v=J0hjnC14uM>  <https://www.youtube.com/watch?v=V44QlrTs7Mo>  <https://www.youtube.com/watch?v=7xDe2K8UFGM>  <https://www.youtube.com/watch?v=EhnRhfFLyOg&t=36s>  <https://www.youtube.com/watch?v=4ujRS5poCP8>  <https://www.youtube.com/watch?v=q9M2_0wwumo>  <https://www.youtube.com/watch?v=L6w0_j6mWbo>  <https://www.youtube.com/watch?v=DpKPBIncPvA>  <https://www.youtube.com/watch?v=HNk5JdMUmno> |
| 16 | Heredity and Variation | * Inheritance * Heredity: characteristics and their appearance * Types of chromosomes * Mendel’s laws of inheritance * Diseases due to chromosomal aberrations * Albinism * Sickle-cell anaemia * Mitochondrial disorder | <https://www.youtube.com/watch?v=eEUvRrhmcxM>  <https://www.youtube.com/watch?v=AzKTatqhtMQ>  <https://www.youtube.com/watch?v=wcbc5LHHsDE>  <https://www.youtube.com/watch?v=oMvQSF2iVAk>  <https://www.youtube.com/watch?v=KDl8MN53jsA>  <https://www.youtube.com/watch?v=tnqO-mqfg8w>  <https://www.youtube.com/watch?v=V49g3Vj9RS8>  <https://www.youtube.com/watch?v=MLnJzs0BlhQ>  <https://www.youtube.com/watch?v=R4-c3hUhhyc>  <https://www.youtube.com/watch?v=p6IsPipOhjc>  <https://www.youtube.com/watch?v=QC_1kE4tsX>  <https://www.youtube.com/watch?v=yQiBXZenEkY> |
| 17 | Introduction to Biotechnology | * Tissues : animal tissues and plant tissues * Types of epithelial tissues * Types of connective tissue * Types of muscular tissue * Meristematic tissue * Permanent tissue * Types of simple permanent tissue * Types of complex permanent tissues * Biotechnoligy * Tissue culture * Agritourism * Agri-business | <https://www.youtube.com/watch?v=otoiSr7lb88>  <https://www.youtube.com/watch?v=P3714_a3l0w>  <https://www.youtube.com/watch?v=Wa5cPlEzxr4>  <https://www.youtube.com/watch?v=GvU5bRQKgHc>  <https://www.youtube.com/watch?v=sfNBe9jCsT4>  <https://www.youtube.com/watch?v=lLnjo4Pf2JM>  <https://www.youtube.com/watch?v=KKgqNHaCxh8>  <https://www.youtube.com/watch?v=xSYLJIR6cGY>  <https://www.youtube.com/watch?v=euyvrLhmfJU>  <https://www.youtube.com/watch?v=xSYLJIR6cGY&t=53s>  <https://www.youtube.com/watch?v=caiv-O8c00E>  <https://www.youtube.com/watch?v=41CfMlpaRCQ>  <https://www.youtube.com/watch?v=yS_rg7rzkSQ>  <https://www.youtube.com/watch?v=BbmOA2HPYwo>  <https://www.youtube.com/watch?v=0lzOjd9Izn8>  <https://www.youtube.com/watch?v=xWUuDM1g4Rg>  <https://www.youtube.com/watch?v=B02jsCLwy1I>  <https://www.youtube.com/watch?v=LTDKgl8z6sA>  <https://www.youtube.com/watch?v=lg2Ub18XPs4> |
| 18 | Observing Space : Telescopes | * Forms of light * Telescopes * Optical telescopes * Radio telescopes * Telescopes in space * Indian Space Research Organization(ISRO) Bengaluru * Astrosat | <https://www.youtube.com/watch?v=CIWEJEYD-bg>  <https://www.youtube.com/watch?v=H-M_Td08aro>  <https://www.youtube.com/watch?v=LzII1f3pp-8>  <https://www.youtube.com/watch?v=o8scpyetXQE>  <https://www.youtube.com/watch?v=mL-BYWkY6m0>  <https://www.youtube.com/watch?v=yWxeSpZwF8s>  <https://www.youtube.com/watch?v=t3ta4uT0lWs&t=69s>  <https://www.youtube.com/watch?v=AxUR6UJalQw> |