# BAGARIA BAL VIDYA NIKETAN

## LAXMANGARH-SIKAR

## SYLLABUS & LESSON PLANNER-2024-25

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| **Class:-** | **XI** |
| **Subject:-** | **PHYSICS** |
| **Teacher Name:-** | **SUMIT SAINI** |

**SYLLABUS**

| Ch.No | Name of Books | Name of Chapter | working day | Period | Topic | Month | Week |
|---|---|---|---|---|---|---|---|
| unit 1 and 2 | N.C.E.R.T | chap-1,2 units and measurements kinematics | 26 | 34 | Need for measurement: Units of measurement; systems of units; SI units, fundamental and derived units. significant figures. Dimensions of physical | july | 1<br><br>2<br> |
| | | | | | Frame of reference, Motion in a straight line, Elementary concepts of differentiation and integration for describing motion, uniform and nonuniform motion, and instantaneous velocity, uniformly accelerated motion, velocity - time and position-time graphs. Relations for uniformly accelerated motion (graphical treatment). | | <br>3<br><br><br><br><br>4<br> |
| unit-2 and 3 | N.C.E.R.T | chap-3,4 motion in a plane and laws of motion | 24 | 32 | Scalar and vector quantities; position and displacement vectors, general vectors and their notations; equality of vectors, multiplication of vectors by a real number; addition and subtraction of vectors, Unit vector; resolution of a vector in a plane, rectangular components, Scalar and Vector product of vectors. | AUGUST | <br><br><br>1<br>2<br>3<br>4 |
| unit-4 and 5 | | | | | Centre of mass of a two-particle system, momentum | | |

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| | N.C.E.R.T | Chapter–6: Work, Energy and Power Chapter–7: System of Particles and Rotational Motion | 23 | 30 | conservation and<br>Centre of mass motion. Centre of mass of a rigid body; centre of mass of a<br>uniform rod.Work done by a constant force and a variable force; kinetic energy, workenergy theorem, power. | SEPT | 1,2,3,4 |
| unit 6 | N.C.E.R.T | chapter 8 gravtation | 23 | 30 | Kepler's laws of planetary motion, universal law of gravitation.<br>Acceleration due to gravity and its variation with altitude and depth.<br>Gravitational potential energy and gravitational potential, escape speed | NOV | 1,2,3,4 |
| unit -7 | N.C.E.R.T | Chapter–9: Mechanical Properties of Solids Chapter–10: Mechanical Properties of FluidsChapter–11: Thermal Properties of Matter | 24 | | [illegible] modulus, bulk<br>modulus, shear modulus of rigidity (qualitative idea only), Poisson's<br>ratio; elastic energy.Pressure due to a fluid column; Pascal's law and its applications (hydraulic<br>lift and hydraulic brakes), effect of gravity on fluid pressure.<br>Viscosity, Stokes' law, terminal velocity, streamline and turbulent flow, critical<br>velocity, Bernoulli's theorem and its simple applications.<br>Surface energy and surface tension, angle of contact, excess of pressure<br>across a curved surface, application of surface tension ideas to drops, | DEC<br><br><br><br><br><br><br>FEB | 1<br>2<br><br>3<br><br>4 |
| UNIT-8,9,10 | N.C.E.R.T | Chapter–12: Thermodynamics Chapter–13: Kinetic Theory | 27 | 35 | Periodic motion - time period, frequency, displacement as a function of time,<br>periodic functions and their applications.<br>Simple harmonic motion (S.H.M) and its equations of motion; phase; oscillations<br>of a loaded spring- restoring force and force constant; energy in S.H.M.<br>Kinetic and potential energies; simple pendulum derivation of expression for its<br>time period.<br>Equation of state of a perfect gas, work done in compressing a gas. | JANUARY | 1 |

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| UNIT-8,9,10 | N.C.E.R.T | Chapter–13: Kinetic Theory<br>Chapter–14: Oscillations: Waves | 27 | 33 | a gas.<br>Kinetic theory of gases - assumptions, concept of pressure. Kinetic interpretation of temperature; rms speed of gas molecules; degrees of freedom, law of equi-partition of energy (statement only) and application to specific heat capacities of gases; concept of mean free path, Avogadro's numberThermal equilibrium and definition of temperature, zeroth law of thermodynamics, heat, work and internal energy. First law of thermodynamics, Second law of thermodynamics: gaseous state of matter, | JANUARY | 2<br>3<br>4 |
| | | | 23 | 23 | REVISION | FEB | 1,2,3,4 |
| TERM-II | | | | | | MARCH | 1,2,3,4 |