Grade 10 Physics	
S.No.	**Topics**
Unit I	
	Current Electricity
1.	**Effects of Current**
1.1	Electric current, potential difference and electric current
1.2	Ohm's Law; Resistance, Resistivity, Factors on which the resistance of a conductor depends.
1.3	Series combination of resistors, parallel combination of resistors and its applications in daily life;
1.4	Heating effect of electric current and its applications in daily life.
1.5	Electric Power, Inter relation between P.V.I and R.
2.	**Magnetic effects of Current**
2.1	Magnetic field, field lines, field due to a current carrying conductor, field due to current carrying coil or solenoid; force on current carrying conductor, Fleming's left hand rule.
2.2	Electro magnetic induction.
2.3	Induced potential difference, Induced current, Fleming's Right Hand Rule, Direct current.
2.4	Alternating current; frequency of AC. Advantage of AC over DC.
2.5	Domestic electric circuits
Unit II	
	Optics
3.	**Reflection of Light**
3.1	Reflection of light at curved surfaces, Images formed by spherical mirrors, center of curvature, principal axis, principal focus, focal length
3.2	Mirror Formula (derivation not required), Magnification
4.	**Refraction of Light**
	Refraction : laws of refraction, refractive index
4.1	Refraction of light by spherical lens, Image formed by spherical lenses, lens formula (Derivation not required), Magnification.
4.2	Power of a lens; Functioning of a lens in human eye, defects of vision and their corrections, applications of spherical mirrors and lenses.
4.3	Refraction of light through a prism, dispersion of light, scattering of light, applications in daily life.
	Natural Resources
5.	**Management of Natural Resources**
5.1	Management of natural resources
5.2	Conservation and judicious use of natural resources
5.3	Forest and wild life, coal and petroleum conservation
5.4	Examples of People's participation for conservation of natural resources
6.	**The Regional Environment**

6.1	Big dams : advantages and limitations ; alternatives if any
6.2	Water harvesting
6.3	Sustainability of natural resources
7.	**Sources of Energy**
7.1	Different forms of energy, conventional and non-conventional sources of energy: fossil fuels, solar energy; biogas; wind, water and tidal energy; nuclear, Renewable versus non-renewable sources.
8.	**Our Environment**
8.1	Eco-system, Environmental problems, Ozone depletion, waste production and their solutions
8.2	Biodegradable and non-biodegradable, substances.

Grade 10 Mathematics	
S.No.	**Topics**
Unit I	
	Number Systems
1.	**Real Number**
1.1	Euclid 's division lemma
1.2	Fundamental Theorem of Arithmetic –statements after reviewing work done earlier and after illustrating and motivating through examples,
1.3	Proofs of results – irrationality of decimal expansions of rational numbers in terms of terminating/non-terminating recurring decimals.
	Algebra
2.	**Polynomials**
2.1	Zeros of a polynomial
2.2	Relationship between zeros and coefficients of quadratic polynomials
2.3	Statement and simple problems on division algorithm for polynomials with real coefficients
	Trigonometry
3.	**Introduction to Trigonometry**
3.1	Trigonometric ratios of an acute angle of a right-angled triangle
3.2	Proof of their existence (well defined); motivate the ratios, whichever are defined at &
3.3	Values (with proofs) of the trigonometric ratios of Relationships between the ratios.
4.	**Trigonometric Identities**
4.1	Proof and applications of the identity
4.2	Only simple identities to be given
4.3	Trigonometric ratios of complementary angles.
5.	**Triangles**
	Definitions, Examples, Counter examples of similar triangles.
5.1	(Prove) If a line is drawn parallel to one side of a triangle to intersect the other two sides in distinct points, the other two sides are divided in the same ratio
5.2	(Motivate) If a line divides two sides of a triangle in the same ratio, the line is parallel to the third side.
5.3	(Motivate) If in two triangles, the corresponding angles are equal, their corresponding sides are proportional and the triangles are similar.
5.4	(Motivate) If the corresponding sides of two triangles are proportional, their corresponding angles are equal and the two triangles are similar
5.5	(Motivate) If one angle of a triangle is equal to one angle of another triangle and the sides including these angles are proportional, the two triangles are similar.

5.6	(Motivate) If a perpendicular is drawn from the vertex of the right angle of a right angle to the hypotenuse, the triangles on each side of the perpendicular are similar to the whole triangle and to each other
5.7	(Prove) The ratio of the areas of two similar triangles is equal to the ratio of the squares on their corresponding sides
5.8	(Prove) In a right triangle, the square on the hypotenuse is equal to the sum of the squares on the other two sides
5.9	(Prove) In a triangle, if the square on one side is equal to sum of the squares on the other two sides, the angles opposite to the first side is a right triangle.
	Statistics and Probability
6.	**Statistics**
6.1	Mean, median and mode of grouped data (bimodal situation to be avoided)
6.2	Cumulative frequency graph
Unit II	
7.	**Pair Linear Equations in Two Variables**
7.1	Pair of linear equations in two variables and their graphical solution
7.2	Geometric representation of different possibilities of solutions/inconsistency.
7.3	Algebraic conditions for number of solutions
7.4	Solution of pair of linear equations in two variables algebraically by substitution, by elimination and by cross multiplication
7.5	Simple situational problems must be included
7.6	Simple problems on equations reducible to linear equations may be included
8.	**Quadratic Equations**
8.1	Standard form of a quadratic equation
8.2	Solution of the quadratic equations (only real roots) by factorization, by completing the square and by using quadratic formula
8.3	Relationship between discriminant and nature of roots
8.4	Problems related to day to day activities to be incorporated.
9.	**Arithmetic Progressions**
9.1	Motivation for studying A.P.
9.2	Derivation of standard results of finding the nth term and sum of first n terms
10.	**Heights and Distance**
10.1	Simple and believable problems on heights and distances.
10.2	Problems should not involve more than two right triangles.
10.3	Angles of elevation/depression should be only
11.	**Coordinate Geometry**
	Lines (In two dimensions)

11.1	Review the concepts of coordinate geometry done earlier including graphs of linear equations
11.2	Awareness of geometrical representation of quadratic polynomials
11.3	Distance between two points and section formula (internal)
11.4	Area of a triangle
	Geometry
12.	**Circles**
	Tangents to a circle motivated by chords drawn from points coming closer and closer to the point
12.1	(Prove) The tangent at any point of a circle is perpendicular to the radius through the point of contact.
12.2	(Prove) The lengths of tangents drawn from an external point to circle are equal
13.	**Constructions**
13.1	Division of a line segment in a given ratio (internally)
13.2	Tangent to a circle from a point outside it
13.3	Construction of a triangle similar to a given triangle
	Mensuration
14.	**Areas Related to Circles**
14.1	Motivate the area of a circle; area of sectors and segments of a circle
14.2	Problems based on areas and perimeter / circumference of the above said plane figure.
14.3	(In calculating area of segment of a circle, problems should be restricted to central angle of only
14.4	Plane figure involving triangles, simple quadrilaterals and circle should be taken.
15.	**Surface Areas and Volumes**
15.1	Problems of finding surface areas and volumes of combinations of any two of the following; cubes, cuboids, spheres, hemispheres and right circular cylinders/cones. Frustum of a cone.
15.2	Problems involving converting one type of metallic solid into another and other mixed problems. (Problems with combination of not more than two different solids be taken.
	Statistics and Probability
16	**Probability**
16.1	Classical definition of probability
16.2	Connection with probability as given in Class IX
16.3	Simple problems on single events, not using set notation.

Grade 10 Chemistry
Topics
Unit I
• Chemical Reactions and Equations • Acids, Bases and Salts • Metals and Non-metals
Unit II
• Carbon and its Compounds
• Periodic Classification of Elements

Grade 10 Biology
Topics
Unit I
• Life Processes • Control and Coordination • How do Organisms Reproduce?
Unit II
• Heredity and Evolution • Our Environment • Management of Natural Resources