Syllabus for ALOHA GAT 2018

Class : 9th

Subject : Science

Physics		
S. No.	**Unit**	**Topics to be covered**
01	Force & Laws of motion	• Force and its relation to motion • Balanced and unbalanced force • Concept of inertia and its relation with mass • Newton's law of motion • Momentum • Force and acceleration • Elementary idea of conservation of momentum • Action and reactions force.
02	Gravitation	• Gravity and gravitation • Universal law of gravitation and its importance • Acceleration due to gravity • Relation between acceleration due to gravity (g) and gravitational constant (G), • Difference between mass and weight, motion of objects under the influence of gravity (use of (g) in equations of motion.
03	Sound	• Nature of sound and its propagation in various media, • Necessity of material medium for propagation of sound • Speed of sound • Reflection of sound • Echo • Range of hearing in humans, infrasonic and ultrasonic sounds; • Sonar: structure of human ear (auditory aspect only).
	Chemistry	
01	Atoms & Molecules	• Laws of chemical combinations:- law of conservation of mass, Law of constant proportion, Numerical problems on laws of chemical combination • Atom • Atomic mass • Molecules (Molecules of elements and molecules of compounds). • Ions (simple and polyatomic), • Chemical formulae, writing chemical formulae of simple compounds. • Molecular mass and mole concept, • Formula unit mass • Numerical problems on mole concept.

02	**Structure of atom**	• **Charged particle of matter (Electrons and protons)** • **Thomson model of Atom and its drawbacks.** • **Rutherford's model of Atom and drawbacks** • **Bohr's model of atom (A brief description)** • **Neutral particle of Matter (Neutron).** • **Distribution of electrons in various orbits (shells)** • **Electronic concept of valency** • **Atomic number and mass number** • **Isotopes and isobars.**
	Biology	
01	**Tissues**	• **Types of plants and animal tissues: Meristematic, Permenant tissue and their types, (Parenchyma, Collenchymas, Sclerenchyma, Xylem and Phloem with their elements). Animal tissues, Epithelial tissue, Connective tissue, Muscular tissue and Nervous tissue.**
02	**Natural resources**	• **Resources – air ,water and soil** • **Air pollution** • **Rain** • **Water** • **Water pollution** • **Mineral riches in the soil** • **Soil pollution** • **Biogeochemical cycles-water cycle, oxygen cycle, carbon cycle and Nitrogen cycle.** • **Green house effect** • **Ozone layer depletion (brief idea)**
03	**Why do we fall ill**	• **Health and its failure** • **Disease and its causes-Acute and chronic disease** • **Causes of diseases** • **Infectious and Non-infectious diseases** • **Infectious diseases- Agents Means of Spread. Organ specific and tissue specific manifestation** • **Principle of treatment and prevention.**

Subject : Mathematics

S. No.	Unit	Topics to be covered
01	**Polynomials**	• Understanding of polynomials • Knowledge of zeros and degree of polynomials • Divide a polynomial by another polynomial. • Concept of remainder and factor theorem and be able to use these theorems. • Understanding of Algebraic identities and have the understanding to use these identities
02	**Statistics**	• Understanding of data and be able to collect data locally and interpret it tabulated form. • Represent the data graphically

		• Knowledge of mean, mode and median and use these in daily life problems.
03	**Lines And angles**	• Knowledge of Euclid's Definitions, Axioms and Postulates • Knowledge of Types of angles, complimentary, supplementary, linear pair, vertically opposite, corresponding, alternate angles
04	**Quadrilaterals**	• Understanding of different types of quadrilaterals and their properties. • Compare the different quadrilaterals and be able to identify the common properties etc.
05	**Circles**	• Knowledge of circle and terms related to it. (Radius, Diameter, Tangent, Chord, Secant, sector, segment etc • Solve the problems based on circles. • Knowledge of different angles made in circle by different line segments.

Subject : Social Studies

History		
S. No.	**Unit**	**Topics to be covered**
01	**The French Revolution**	• Events and process that shaped the identity of the world. • Development and factors that led to French Revolution • People and ideas that inspired the revolution • Written, oral and visual material as a source for the history of revolution.
02	**Pastoralists in the modern world**	• What happened to pastoralists • Pastoralism in the Modern World with the formation of Modern States • Marking of boundaries • Process of sedentriazation • Contraction of pastures and expansion of markets • Varying patterns of developments with pastoral societies in different places.
03	**History and sport : The story of Cricket**	• Issues of culture are linked to the making of contemporary world • Emergence of Cricket as an English sport • Cricket and colonialism • Cricket nationalism and de-colonization • Sports have a history and is linked with politics of power domination • Stories of cricket that have historical significances.
Civics		
01	**Democracy in the contemporary world**	• Meaning- Democracy • Difference between democracy and dictatorship • Features of democracy • Spread of democracy in the world as form of Government. • Two tales of democracy • Changing map of democracy • Phases in the expansion of democracy.

		• Know terms- censorship, coalition, colony, martial law, Veto, referendum.
02	**Electoral Politics**	• Why Election • Types of elections in democracy • Election process in India, • Difference between democratic and non-democratic elections • Election Commission of India, • Challenges to Election in India.
		Geography
01	**Physical features of India**	• Major Physiographic Divisions- The Himalayan Mountains, The Northern Plains, The Peninsular Plateau, The Indian Desert, The Coastal Plains, The Islands • Formation of Himalayas • Major Physical Divisions of J&K. • Map work: Location of mountains and Hill ranges, peaks, plateaus, deserts, Eastern and Western Ghats, Lakshadweep Islands.
02	**Climate**	• Meaning- Climate • Monsoon • Climate of India • Climate controls- Latitude, altitude, pressure, wind system, distance from the sea, ocean currents and relief features • Factors affecting climate of India • The Indian Monsoon- as a unifying bond. • The seasons of India • Distribution of rainfall • Climate of Jammu, Kashmir and Ladakh. • Map skills: Locating places with rainfall over 400 cm and less than 20 cm. Areas of low rainfall in J&K.
03	**Population**	• Meaning • Population growth • Population change • Literacy rate • Population of India as per Census 2011 • Population size, distribution, density, age composition, occupational • structure, • National policy of population; • Population of J&K- Size and Growth, distribution, factors responsible for uneven population distribution in India and in J&K. • Demographic attributes.