

**ANNUAL SYLLABUS -SESSION-2018-19**

**CLASS-IX**

**SUBJECT: SCIENCE**

<b>Unit No.</b>	<b>Unit</b>	<b>Marks</b>
<b>I</b>	<b>Matter - Its Nature and Behaviour</b>	<b>23</b>
<b>II</b>	<b>Organisation in the Living World</b>	<b>20</b>
<b>III</b>	<b>Motion, Force and Work</b>	<b>27</b>
<b>IV</b>	<b>Our Environment</b>	<b>06</b>
<b>V</b>	<b>Food; Food Production</b>	<b>04</b>
	<b>Total</b>	<b>80</b>
	<b>Internal assessment</b>	<b>20</b>
	<b>Grand Total</b>	<b>100</b>

**Note:** Above weightage includes the weightage of questions based on practical skills.

**Schedule for Periodic Assessments and CASExam. of Session 2018-19**

<b>Schedule</b>	<b>Months assigned for PA's</b>	<b>Syllabus covered</b>
<b>Mid Term Examination - 2018 (Periodic Assessment-I)</b>	<b>September 2018</b>	<b>❖ Ch-1,Ch-2,Ch-5,,Ch-6,Ch-7,Ch-8,Ch-9,Ch-15 (And all the practicals associated with the chapters )</b>
<b>Periodic Assessment-II</b>	<b>December 2018</b>	<b>Ch-1 to Ch-15 (And all the practicals associated with the chapters)</b>
<b>Periodic Assessment-III</b>	<b>January 2019</b>	<b>Ch-1 to Ch-15 (And all the practicals associated with the chapters)</b>
<b>Common Annual School Examination 2018-19</b>	<b>March 2019</b>	<b>Ch-1 to Ch-15(And all the practicals associated with the chapters)</b>

**The assessment format and weightage of marks for classes IX/X will be as under**

<b>Class</b>	<b>PA-I</b>	<b>PA-II</b>	<b>Assessment of Note book submission</b>	<b>Subject enrichment activities</b>	<b>CASE</b>	<b>Total</b>
<b>IX</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>5</b>	<b>80</b>	<b>100</b>

**Note:** Consider the marks of two best Periodic Assessments out of three Periodic Assessments for **INTERNAL ASSESSMENT**

**Note book submission (05Marks):**

Notebook submission as a part of Internal Assessment is aimed at enhancing seriousness of students towards preparing notes on the topics being taught in the classroom as well as the assignments. This also addresses the critical aspect of regularity, punctuality, neatness and notebook upkeep.

**Subject Enrichment Activities ( 05 Marks):**

Here are subject specific application activities imbed at enrichment of the understanding and skill development. These activities are to be recorded internally by the concerned subject teacher.

Guidelines issued by CBSE for classes IX & X to be followed by all the Govt. & Govt. Aided Schools.

**TERM WISE SYLLABUS (Session 2018-19)**

MONTH	CONTENT
	<b>TERM-I</b>
<b>April 2018 to September 2018</b>	<p><b>UNIT-I MATTER-ITS NATURE AND BEHAVIOUR</b>  <b>Chapter -1 :Matter in our surroundings</b>  Matter – Nature and behaviour  Matter in our surroundings – Physical nature of Matter, Characteristics of particles of Matter, States of Matter, Change Of State - Interconversion of the three states, Evaporation (Factors affecting evaporation, evaporation cause cooling).</p> <p><b>Practical No. 7:</b> Determine the melting point of ice and boiling point of water.</p> <p><b>Practical No. 4 :</b> Performing the following reactions and classifying them as physical or chemical changes:  a) Iron with Copper Sulphate solution in water  b) Burning of magnesium ribbon in air  c) Zinc with dilute Sulphuric Acid  d) Heating of Copper Sulphate Crystals  e) Sodium Sulphate with Barium Chloride in the form of their Solution in water.</p> <p><b>Chapter-2: IS MATTER AROUND US PURE</b>  <b>Nature of Matter:</b>  Mixtures. Types of mixtures-Homogeneous and Heterogeneous mixtures, Solution, Colloids and Suspension, Separating the components of mixture, Physical and Chemical changes, Types of pure substances- Element and Compound.</p> <p><b>Practical No. 3 :</b> Separation of components of mixture of sand, common salt and ammonium chloride (or camphor) by Sublimation.  <b>Practical No. 1 :</b> Preparation of  a) A true solution of common salt, sugar and alum.  b) A suspension of soil, chalk powder and fine sand in water.  c) A colloidal solution of starch in water and egg albumin/ milk in water and distinction between these on the basis of  <ul style="list-style-type: none"> <li>• transparency</li> <li>• filtration criterion</li> <li>• stability</li> </ul> </p>

**Practical No. 2:** Preparation of a) Mixture b) Compound - Using Iron filling and Sulphur powder and distinction between these (mixture and compound) on the basis of –  
i) appearance i.e. homogeneity and heterogeneity  
ii) behaviour towards a magnet  
iii) behaviour towards Carbon disulphide as a solvent  
iv) effect of heat.

## **UNIT-II ORGANISATION IN THE LIVING WORLD**

### **Chapter 5 The Fundamental Unit Of Life**

Cell as a basic unit of life; What are living organisms made up of? What is a cell made up of? what is the structural organization of a cell?(cell membrane and Cell Wall, Nucleus -Prokaryotic and Eukaryotic cell, Chromosomes – basic structure and number, Cytoplasm, Cell Organelles- Endoplasmic reticulum, Golgi apparatus, Lysosome, Mitochondria, Plastid, Vacuoles.

**Practical No. 5:** Preparation of stained temporary mounts of a) Onion peel  
b) Human Cheek Cells and to record observations and draw their labelled diagrams.

## **UNIT-II ORGANISATION IN THE LIVING WORLD**

### **Chapter-6 Tissue**

Structure and functions of plant and animal tissues (meristematic and permanent tissue in plant and four types of tissues in animals.)

**Practical No. 6:** Identification of parenchyma, Collenchyma and Sclerenchyma tissues in plants, striped, smooth and cardiac muscle fibres and nerve cells in animals from permanent slides and Drawing of their labelled diagram.

## **UNIT-III – MOTION, FORCE AND WORK**

### **Chapter-8 Motion**

Describing motion (Distance and displacement, velocity) uniform and non-uniform motion and uniformly accelerated motion, Rate of change of velocity (acceleration), graphical representation of motion and Equation of motion by Graphical method, Uniform Circular Motion.

### **Chapter-9 Force and Laws of Motion**

Force and Laws of Motion; Balanced and Unbalanced forces, Newton's Laws of Motion- First Law of Motion (Inertia and mass), Second law of Motion (Momentum, Force and acceleration) mathematical formulation of Second law of motion, Third law of Motion and Conservation of Momentum.

## **UNIT-II – ORGANISATION IN THE LIVING WORLD**

### **Chapter 7 Diversity In Living Organism**

Basis of Classification, Classification and Evolution. Hierarchy of classification – Groups -Monera, Protista, Fungai, Plantae (Salient features of Thallophyta, Bryophyta, Pteridophyta, Gymnosperm and Angiosperms) and Animalia (salient features of Non Chordates upto Phyla and Chordates upto class), Nomenclature of living beings.

**Practical No. 12:** Study of characteristics of Spirogyra, Agaricus, Moss, Fern, Pinus (either with male or female cone) and an Angiospermic plant. Drawing and providing two identifying features of the groups they belong to.

	<p><b>Practical No. 13:</b> Study the features of earthworm, cockroach, bony fish and bird with the help of given pictures/ charts /models. For each organism, drawing of their picture and recording :</p> <p>a) One specific feature of its phylum. b) One adaptive features with reference to its habitat.</p> <p><b>Practical No. 15:</b> Study of the external features of root, stem,leaf and flower of monocot and dicot plants.</p> <p><b>UNIT V-FOOD; FOOD PRODUCTION</b> <b>Chapter- 15 :Improvement In Food Resources</b> Plant and animal breeding and solution for quality improvement and management; uses of fertilizers and measures; protection from pests and diseases, organic farming.</p>
<b>September 2018</b>	<b>Revision of syllabus for Mid-Term Examination -2018 (Periodic Assessment-I)</b>
	<b>Term –II</b>
<b>October 2018 to December 2018</b>	<p><b>UNIT –III – MOTION, FORCE AND WORK</b></p> <p><b>Chapter 10 Gravitation</b> Gravitation: Universal law of Gravitation and its importance, Free Fall - Acceleration due to gravity, Mass and Weight, Weight of an object on moon . <b>Floatation:</b> Thrust and Pressure - Pressure in fluids , Buoyancy ,Why objects float or sink when placed on the surface of water ?,Archimedes’ principle , Relative density.</p> <p><b>Practical No. 9:</b> Determine the density of solid (denser than water) by using a spring balance and measuring cylinder.</p> <p><b>Practical No. 10:</b> Establishing the relation between the loss on weight of solid when fully immersed in (a) tap water (b) Strongly salty water. With the weight of water displaced by it by taking at least two different solids.</p> <p><b>UNIT IV - OUR ENVIRONMENT</b> <b>Chapter -14 :Natural Resources</b> Air, Water, Soil, Movements of air and its role in bringing rains across India. Air,water and soil pollution (brief introduction). Biogeochemical Cycles,Ozone layer ,causes of its depletion and harmful effects).</p> <p><b>UNIT I – MATTER - ITS NATURE AND BEHAVIOR</b> <b>Chapter 3- Atoms And Molecules:</b> Laws of chemical combinations. Atoms-symbols, atomic mass ,Molecules – molecules of elements and compounds , ions, Chemical Formulae of compounds Molecular masses and mole concept; Relationship of Mole to mass of the particles and Avogadro constant or number .</p> <p><b>Practical No. 14:</b> Verification of Law of Conservation of mass in a chemical reaction.</p>

	<p><b>Chapter 4- Structure Of The Atom</b> Charged Particles -Electrons, Protons and Neutrons,Valency, Structure of an Atom ,Distribution of electrons in different orbits ,Valency , Atomic number and Mass number , Isotopes and Isobars.</p> <p><b>UNIT II – ORGANISATION IN THE LIVING WORLD</b> <b>Chapter-13 Why Do We Fall ill .</b> Health and its failure. Infection and Non-infectious diseases,their causes and manifestation. Diseases caused by microbes(virus, bacteria and protozoans) and their prevention, principles of treatment and prevention, Immunization .</p> <p><b>UNIT III - MOTION,FORCE AND WORK</b> <b>Chapter-11 Work and Energy</b> Work – work done by force , Energy- Forms of Energy , Kinetic and Potential energy ,Potential energy of an object at a height ,transformation of energy , Law of conservation of energy. Rate of doing work (power ). <b>Chapter-12 Sound</b> Nature of sound , Propagation of sound , Reflection of sound, Range of hearing in humans, Application of Ultrasound , Structure of Human ear . <b>Practical No. 8:</b> Verification of Law of reflection of sound. <b>Practical No. 11:</b> Determine the speed of pulse propagated through a stretched string / slinky.</p> <p><b>SYLLABUS SHOULD BE COMPLETED BY DECEMBER 2018</b></p> <ul style="list-style-type: none"> <li>• <b>Revision of complete Syllabus for Periodic Assessments -II</b></li> <li>• <b>Practice of PBQs (Practical Based Questions)</b></li> </ul>
<p><b>January 2019 to February 2019</b></p>	<ul style="list-style-type: none"> <li>• <b>Revision of complete Syllabus for Periodic Assessment-III</b></li> <li>• <b>Revision of Support Material</b></li> <li>• <b>Practice of Sample Question Papers from DoE.</b></li> </ul>
<p><b>March 2019</b></p>	<ul style="list-style-type: none"> <li>• <b>COMMON ANNUAL SCHOOL EXAMINATION- 2019</b></li> </ul>