BISHOP SCOTT BOYS' SCHOOL

C - Curriculum

D - Development &

L - Learning

O - Objectives

10

SCIENCE

BISHOP SCOTT BOYS' SCHOOL
STUDENT CURRICULUM MANUAL

Subject : SCIENCE	Class : X	Academic Plan : 2025 -26

Month	Course Description	Learning Outcome	Activity	No. of Periods	Portion for PT & TERM Assessment
April	CHAPTER : 9 LIGHT – REFLECTION AND REFRACTION	1. Reflection Of Light • Laws of Reflection of light • Image formation by plane mirror 2. Spherical Mirrors • Image Formation by Spherical Mirrors • Representation of Images Formed by Spherical Mirrors Using Ray Diagrams • Sign Convention for Reflection by Spherical Mirrors • Mirror Formula and Magnification	1. Take a large shining spoon. Try to view your face in its curved surface. 2. Take a convex mirror. Hold it in one hand. Hold a pencil in the upright position in the other hand. Observe the image of the pencil in the mirror. Is the image erect or inverted? Is it diminished or enlarged?	6	
	CHAPTER: 1 CHEMICAL REACTIONS AND EQUATIONS	1. Chemical equations 2. Writing a Chemical Equation. • Word form • Symbolic representation 3. Balanced Chemical Equations 4. How do we come to know a chemical change has occurred?	1. Burning of a magnesium ribbon in air and collection of magnesium oxide in a watch-glass. 2. Formation of hydrogen gas by the action of dilute sulphuric acid on zinc. 3. Formation of slaked lime by the reaction of calcium oxide with water.	4	

			4. Formation of slaked lime by the reaction of calcium oxide with water		
	CHAPTER - 5 : LIFE PROCESSES	1) Know the importance of various life processes, like Nutrition ; Respiration ; Transportation and Excretion in Plants and Animals. 2) Critically analyse the various Physiological Processes related to Plants and Animals 3) Appreciate the importance of different organs present in various systems and how effectively they collaborate with each other so that different systems can work effectively.	1) Preparation of Temporary mount of a Leaf Peel for showing Stomata 2) Experimentally showing the evolve of Carbon dioxide during Respiration	8	

May	CHAPTER : 9 LIGHT – REFLECTION AND REFRACTION	3. Refraction Of Light • Refraction through a Rectangular Glass Slab • The Refractive Index • Refraction by Spherical Lenses • Image Formation by Lenses • Image Formation in Lenses Using Ray Diagrams	3. Place a coin at the bottom of a bucket filled with water. With your eye to a side above water, try to pick up the coin in one go. Did you succeed in picking up the coin? 4. Determination of the focal length of: i) Concave mirror ii) Convex lens by obtaining the image of a distant object	4	
	CHAPTER: 1 CHEMICAL REACTIONS AND EQUATIONS	5) Types of chemical reactions. • Combination reaction • Decomposition reaction • Displacement reaction • Double displacement reaction • Redox reaction.	5.Heating of lead nitrate and emission of nitrogen dioxide 6. Silver chloride turns grey in sunlight to form silver metal	4	
	CHAPTER : 5 LIFE PROCESSES	4) Design creative methods to bring a positive change in the life style so as to prevent the various diseases related to various systems. 5) Draw diagrams of Various Systems.		6	

Month	Course Description	Learning Outcome	Activity	No. of Periods	Portion for PT & TERM Assessment
June	CHAPTER : 9 LIGHT – REFLECTION AND REFRACTION	3. Refraction Of Light • Sign Convention for Spherical Lenses • Lens Formula and Magnification • Power of a Lens	5. Tracing the path of a ray of light passing through a rectangular glass slab for different angles of incidence. Measure the angle of incidence, angle of refraction, angle of emergence and interpret the result.	4	
	CHAPTER: 1 CHEMICAL REACTIONS AND EQUATIONS	6) Corrosion (Rusting of iron.) 7) Rancidity	7. Single displacement reaction Iron nails dipped in copper sulphate solution	2	
	CHAPTER: 2 ACIDS BASES AND SALTS	1) Reaction of Carbonates and Metal Hydrogen carbonates with Acids 2) Reaction of Acids and Bases with each other 3) Reaction of Metallic Oxides with Acids.	1) Acids and Bases in the Laboratory 2) Ph indicators.	4	

	CHAPTER : 6 CONTROL AND COORDINATION	1) Identify Different parts of Human Brain. 2) Trace the Sequence of Events taking place during a Reflex Action. 3) Trace the Path of Nervous Impulse through the body		4	
Month	COURSE DESCRIPTION	Learning Outcome	Activity	No. of Periods	Portion for PT & TERM Assessment
July	CHAPTER : 9 LIGHT – REFLECTION AND REFRACTION	Power of a Lens	REVISION	2	**PT_1 EXAM PORTION** CHAPTER :1 CHEMICAL REACTIONS AND EQUATIONS. CHAPTER : 5 LIFE PROCESSES (Till Respiration) CHAPTER : 9 LIGHT – REFLECTION AND REFRACTION (Till Mirror Formula And Magnification)
	CHAPTER : 10 THE HUMAN EYE AND THE COLORFUL WORLD	1) The human eye Power of accommodation 2) Defects of vision and their correction		2	
	CHAPTER: 2 ACIDS BASES AND SALTS	3) Reaction of Metallic Oxides with Acids.	REVISION	2	
	CHAPTER : 6 CONTROL AND COORDINATION	4) Distinguish between Tropic and Nastic Movements. 5) Draw well labelled diagrams of Brain , Reflex Arc , and a Neuron. 6) Appreciate the Role of Hormones in Humans and Plants.	REVISION	6	

August	CHAPTER : 10 THE HUMAN EYE AND THE COLORFUL WORLD	1) The human eye Power of accommodation 2) Defects of vision and their correction 3) Refraction of light through a prism 4) Dispersion of white light by a glass prism 5) Atmospheric refraction 6) Scattering of light Tyndall Effect	1. Dispersion of white light by a glass prism. 2.Scattering of light by suspended dust particles 3. Tracing the path of the rays of light through a glass prism.	5	
	CHAPTER :11 ELECTRICITY	1) Electric current and circuit 2) Electric potential and potential difference 3) Circuit diagram 4) Ohm's Law	1. Identification of components electric circuit in lab. 2. Studying the dependence of potential difference (V) across a resistor on the current (I) passing through it and determine its resistance. Also plotting a graph between V and I.	4	
	CHAPTER: 2 ACIDS BASES AND SALTS	1) Reaction of a Non-metallic Oxide with Base 2) What do all acids and all bases have in common 3) Strength of acid or base solutions 4) Importance of pH in Everyday Life. • Are plants and animals' pH sensitive? • pH of the soil and our	1) Acid solution in water conducts electricity 2) Preparation of HCl gas	6	

		digestive system • pH changes as the cause of tooth decay • Self-defense by animals and plants through chemical warfare 5) Family of Salts and its pH 6) Chemicals from Common Salt, • Common salt — A raw material for chemicals, Sodium hydroxide, • Bleaching powder, • Baking soda, Washing soda • Plaster of Paris • Gypsum			
	CHAPTER : 7 HOW DO ORGANISMS REPRODUCE ?	1) Discuss the Importance of Reproduction for continuity of generation 2) Differentiate between Asexual and Sexual Reproduction. 3) Draw the Different Modes of Reproduction. 4) Understand the Importance of using Birth Control.	1) Studying the Binary fission in Amoeba 2) Studying the Budding in Yeast and Hydra 3) Identification of the different parts of an Embryo of a Dicot Seed like Pea Seed , Gram Seed , Red Bean Seed	8	
	PHYSICS	REVISION FOR TERM-1 EXAM			**TERM – I EXAMINATION PORTION** CHAPTER: 1 CHEMICAL REACTIONS AND EQUATIONS.

Septe mber					CHAPTER: 2 ACIDS BASES AND SALTS CHAPTER: 5 LIFE PROCESSES CHAPTER: 6 CONTROL AND COORDINATON CHAPTER : 7 HOW DO ORGANISMS REPRODUCE ? CHAPTER : 9 LIGHT – REFLECTION AND REFRACTION CHAPTER : 10 THE HUMAN EYE AND THE COLOURFUL WORLD
	CHEMISTRY	REVISION FOR TERM-1 EXAM			
	CHAPTER : 7 HOW DO ORGANISMS REPRODUCE ?	5) Study the Reproductive Systems in Human Male and Female. 6) Discuss the Menstruation Cycle. 7) Appreciate the iImportance of government in banning Prenatal Sex Determination. 8) Learn Prevention of Sexually Transmitted Diseases			

October	CHAPTER :11 ELECTRICITY	5) Factors on which the resistance of a conductor depends 6) Resistance of a system of resistors Resistors in Series and Resistors in Parallel 7) Heating effect of electric current Practical Applications of Heating Effect of Electric Current 8) Electric Power	3. Determination of the equivalent resistance of two resistors when connected in series and parallel.	4	**PT_2 EXAM PORTION** CHAPTER :3 METALS AND NON-METALS CHAPTER: 8 HEREDITY CHAPTER : 11 ELECTRICITY
	CHAPTER :3 METALS AND NON-METALS	1) Metals, Non-metals and their Chemical properties 2) What happens when: • Metals are burnt in Air? • Metals react with Water? • Metals react with solutions of other metal salts? 3) The reactivity series 4) How do metals and non-metals react? 5) Properties of ionic compounds	1) Metals are good conductors of heat. 2) Reaction of metals with salt solutions 3) Testing the conductivity of a salt solution 4) Thermit process for joining railway tracks 5) Investigating the conditions under which iron rusts.	6	

		6) Occurrence and extraction of Metals at different position in the activity series, 7) Enrichment of Ores and Refining of Metals 8) Corrosion and its Prevention			
	CHAPTER : 8 HEREDITY	1) Critically analyse the Importance of Sexual Reproduction as an element of Genetic Variation. 2) Study the Laws of Inheritance given by Mendel. 3) Draw the Monohybrid and Dihybrid crosses.		4	
November	CHAPTER : 12 MAGNETIC EFFECTS OF ELECTRIC CURRENT	1) Magnetic field and field lines 2) Magnetic field due to a current-carrying conductor • Right-Hand Thumb Rules • Magnetic Field due to a Current through a Circular Loop • Magnetic Field due to a Current in a Solenoid • Magnetic Field due to a Current in a Solenoid 3) Force on a current-carrying conductor in a magnetic field 4) Domestic Electric Circuits	1. Demonstration of magnetic field lines around a bar magnet using Iron filings. 2. Tracing of magnetic field line pattern for a bar magnet using compass needle 3. Draw a schematic diagram of a common household domestic circuits	8	

	CHAPTER :4 CARBON AND ITS COMPOUNDS	1) Bonding in carbon – the covalent bond 2) Versatile nature of carbon 3) Saturated and Unsaturated Carbon Compounds 4) Chains, Branches, Rings and Homologous Series 5) Nomenclature and Chemical properties of carbon compounds 6) Combustion, Oxidation, Addition Reaction, Substitution Reaction 7) Ethanol and Ethanoic acid • Properties and reactions of ethanol • Properties and reactions of ethanoic acid • Esterification reaction • Reaction with a base, carbonates and hydrogen carbonates 8) Soaps and detergents	1) Calculate the difference in the formulae and molecular masses. 2)reaction of Na with Ethanol 3)Formation of ester	8	

	CHAPTER : 8 HEREDITY CHAPTER : 13 OUR ENVIRONMENT	4) How to detect the Sex Determination of Male and Female in Human 1) Construct Food chains and Food webs. 2) Define Ecosystem and classify it into Biotic and Abiotic components		6	
December	PHYSICS	REVISION			
	CHEMISTRY	REVISION			**PRE-BOARD EXAMINATION** CHAPTER: 1 CHEMICAL REACTIONS AND EQUATIONS CHAPTER :2 ACIDS BASES AND SALTS CHAPTER :3 METALS AND NON-METALS CHAPTER: 4 CARBON AND ITS COMPOUNDS
	CHAPTER : 13 OUR ENVIRONMENT	3) Appreciate the Role of Decomposers in nature. 4) Explain the 10% Law of Energy flow and Bio - magnification.			CHAPTER: 5 LIFE PROCESSES CHAPTER: 6 CONTROL AND COORDINATION CHAPTER: 7 HOW DO ORGANISMS REPRODUCE ? CHAPTER: 8 HEREDITY CHAPTER : 9 LIGHT – REFLECTION AND REFRACTION

					CHAPTER : 10 THE HUMAN EYE AND THE COLOURFUL WORLD CHAPTER :11 ELECTRICITY CHAPTER : 12 MAGNETIC EFFECTS OF ELECTRIC CURRENT CHAPTER: 13 OUR ENVIRONMENT