

CURRICULUM PLAN 2080		SCIENCE		GRADE IX		
FIRST TERMINAL EXAMINATION						
Unit	Topics	Working hrs	Teaching methods	Teaching materials	Evaluation & technique tools	Remarks
1	<p><u>Science and Scientific Studies</u></p> <ul style="list-style-type: none"> • Scopes of science:- Physics • Chemistry, Biology • Astronomy, Environmental Science • Professional opportunities in the fields of science <p>1.2 Achievements and challenges brought by science and technology</p> <p>1.3 Safety measures on scientific experiments</p> <p>1.4 Scientific measurements</p> <p>1.41 Introduction of scientific notation</p> <p>1.42 Introduction and uses of metric prefixes, precision</p> <p>1.43 Uses and need of average in measurement</p>	5	<p>i. Introduce the fields of science, scientific studies and to seek professional opportunities in these fields.</p> <p>ii. review the achievements and challenges brought by science and technology.</p> <p>iii. adopt safety measures while conducting scientific experimental work</p> <p>iv. Use scientific notation, metric prefixes, precision and average in measurement</p>	Measuring cylinder, pan balance, spring balance, weights, etc.	<p>1. Class Test</p> <p>2. Homework</p> <p>3. Viva</p> <p>4. Judgement of problem solving</p>	
12	<p><u>Astronomy and Geology Universe</u></p> <p>12.1 Introduction of Nebula and black hole</p> <p>12.2 Life cycle of star</p> <ul style="list-style-type: none"> - Birth -Red giant - Nova and Super nova <p>12.3. International and national agencies involved in astronomy</p>	3+1 =4	<p>1. Group discussion</p> <p>2. Demonstration</p> <p>3. Presentation</p> <p>4. Question answer</p> <p>5. Explanation</p>	Movies, Chart, figure of disaster. Etc.	<p>1. Presentation skill</p> <p>2. Individual involvement</p> <p>3. Viva</p> <p>4. Class Test</p>	
7	<p><u>Motion and Force</u></p> <p>7.1 Equations of motion</p> <ul style="list-style-type: none"> -acceleration in st. linear motion -Uniform and non-uniform acceleration, non-uniform velocity - Inertia and effects <p>7.2. Graph of time motion and acceleration</p> <p>7.3. Newton's three law of motion</p> <ul style="list-style-type: none"> -Newton's first law of motion and their uses in daily life and equation -Newton's second law of motion and their uses in daily life and equation -Newton's third law of motion and their uses in daily life and equation <p>7.4. Elasticity and plasticity</p>	8+2 =10	<p>1. Discussion</p> <p>2. Explanation</p> <p>3. Problem solving</p> <p>4. Question answer</p>	Toy car, tin can, beaker, post card, coin, balloons, rope, spring balance, etc.	<p>1. Problem solving skill</p> <p>2. Viva</p> <p>3. homework</p> <p>4. Class Test</p> <p>5. Equation derivation</p>	
14	<p><u>Atomic structure and chemical bond</u></p> <p>14.1. Introduction of Atomic structure</p> <p>Neils Bohrs atomic structures</p> <p>14.2 Radio activity</p> <p>14.3 Radioactivity and emissions</p> <ul style="list-style-type: none"> -Introduction of nuclear fission and nuclear fusion -Alpha, Beta and Gamma rays 	10+1 =11	<p>1. Playing</p> <p>2. Project work</p> <p>3. Discussion</p> <p>4. Question answer</p> <p>5. Explanation</p>	Valency written cards, molecular formula written cards. Molecular structure card	<p>1. Homework</p> <p>2. Unit Test</p> <p>3. Viva</p> <p>4. Class Test</p> <p>5. Involvement of discussion and project work</p> <p>6. Model making</p>	

	<p>Introduction of Atomic energy and their uses</p> <p>14.4. Valence shell and valence electron, Octet and duplet valence</p> <p>14.5 Introduction of Ions</p> <ul style="list-style-type: none"> - Types and formation of Ions - Examples of Ions <p>-Elements upto 20 atomic number</p> <p>14.6 Chemical bonds and their types</p> <p>14.7 Formation of chemical bond</p> <p>14.8 Molecular formula</p> <ul style="list-style-type: none"> - Methods of writing molecular formula -Find the molecular weight with the crisscross method 					
15	<p><u>Chemical reaction</u></p> <p>15.1 Introduction of chemical reactions and chemical reactions</p> <p>15.2 Ways to write balanced chemical equation</p> <p>15.3 Importance of chemical reaction in daily life</p> <p>15.4 Endothermic and exothermic reactions</p>	4	<ol style="list-style-type: none"> 1. Discussion 2. Field study 3. Mini file report 4. Question answer 	Different chemicals and relevant chemical reactions in lab	<ol style="list-style-type: none"> 1. Balancing equation skill 2. Class activities 3. Viva 	
2	<p><u>Classification of plants and animals [Organisms]</u></p> <p>2.1 Introduce the binomial nomenclature system of classification</p> <p>2.2 Relationship between different level of classification</p> <p>2.3 Features of Monera, Protista and Fungi</p> <p>2.4 Importance of the classification of organisms</p>	4	<ol style="list-style-type: none"> 1. Field study 2. Mini file report 3. Discussion 4. Question answer 	Chart, museum specimen, etc	<ol style="list-style-type: none"> 1. Class activities 2. Spotting test 3. Viva 4. Homework 5. Project work 	
3, 12, 13	<p><u>Mushroom</u></p> <p>3.1 Importance of use of mushrooms</p> <p>3.2 Economic importance of mushroom</p> <p>3.3 Importance of mushroom for human health</p> <p>3.4 Ways of conservation of mushroom for longtime</p> <p>3.5 Lifecycle of mushroom</p> <p>3.6 Features of poisonous and edible fungi</p> <p><u>Nature and Environment</u></p>	14	<ol style="list-style-type: none"> 1. Discussion 2. Observation 3. Field study 4. Question answer 5. Explanation 	Charts, figure of different types of mushroom, mushroom diagram, edible and non-edible fungus and mushroom	<ol style="list-style-type: none"> 1. Drawing skill 2. Class performance 3. Homework 4. Unit Test 5. Terminal Test 	
	<u>Revision</u>	52				
MID TERMINAL EXAMINATION						
Unit	Topics	Working hrs	Teaching methods	Teaching materials	Evaluation & technique tools	Remarks

8	<p align="center"><u>Machines</u></p> <p>8.1 Introduction of inclined plane, pulley, wheel and axle as simple machine</p> <p>8.2 Mechanical advantage and velocity ratio of inclined plane, pulley, wheel and axle</p> <p>8.3 Working principle of simple machine and their efficiency</p> <p>8.4 complex machine</p> <p>8.5 Efficiency of simple machine</p>	8	<ol style="list-style-type: none"> 1. Discussion 2. Demonstration 3. Practical 4. Question answer 5. Explanation 	Chart paper model of machines, etc.	<ol style="list-style-type: none"> 1. Problem solving skill 2. Unit Test 3. homework 4. Class Test 	
16	<p align="center"><u>Chemistry</u></p> <p><u>Some gases</u></p> <p>16.1 Hydrogen, Oxygen gas, Nitrogen gas</p> <p>16.2 Preparation of hydrogen, Nitrogen and oxygen gases in lab</p> <p>16.3 Chemical and physical properties of hydrogen and oxygen gas, Nitrogen</p> <p>16.4 Introduction of ozone layer</p> <p>-Formation of ozone layer</p> <p>-depletion of ozone layer</p> <p>Effect of ozone layer depletion</p>	12	<ol style="list-style-type: none"> 1. Discussion 2. Demonstration 3. Practical 4. Question answer 5. Explanation 	Beakers, gas jars, different apparatus for lab preparation of gases, different chemicals required. I	<ol style="list-style-type: none"> 1. Practical skill 2. Oral test 3. participation evaluation 	
5	<p align="center"><u>Life process</u></p> <p>5.1 Tissue</p> <p>Introduction of types of tissue</p> <p>5.1.1 Plant tissue</p> <p>- Meristematic tissues</p> <p>- Permanent tissues(Simple tissue and complex tissue and special tissue)</p> <p>5.1.2 Animal tissue</p> <p>-Epithelial tissue</p> <p>-Muscular tissue</p> <p>-Connective tissue</p> <p>5.2 Human Nervous system</p> <p>- Central nervous system and Parts of Central Nervous System</p> <p>-Peripheral nervous system</p> <p>-Autonomic Nervous system</p> <p>5.3 Human Glandular System</p> <p>-Exocrine Gland and their functions</p> <p>-Endocrine Gland and their functions</p> <p>5.4 Hormones (Plant hormones)</p> <p>-Cytokinen and their functions</p> <p>- Tissue culture and use</p>	13	<ol style="list-style-type: none"> 1. Group discussion 2. Demonstration 3. Field visit 4. Question answer 	Chart, ,movies, etc.	<ol style="list-style-type: none"> 1. Participation in discuss 2. Classwork 3. homework 	

23	<p><u>Information and communication technology</u></p> <p>13.1 Introduction of telecommunication technology</p> <p>13.2 Introduction of artificial satellite in telecommunication - Significance of artificial in telecommunication</p> <p>13.3 Use of Internet in modern communication technology -search of information by use of internet -search of filetype, Inurl and site, map, weather with the help of Internet Find about the copyright of search material.</p> <p>13.4 Uses of online security</p>	16	<ol style="list-style-type: none"> 1. Group discussion 2. Demonstration 3. Practical 4. Question answer 5. Explanation 	Demonstration chart, different taste materials, movies, charts, etc.	<ol style="list-style-type: none"> 1. Observation of practical work 2. Oral test 3. homework 4. Class Test 	
	<u>Revision</u>	49				
	<u>SECOND TERMINAL EXAM</u>					
Unit	Topics	Working hrs	Teaching methods	Teaching materials	Evaluation & technique tools	Remarks
9	<p><u>Sources of energy</u></p> <p>-Solar energy -nuclear reaction in sun, -solar energy technology, -biomass energy and its importance - alternative source of energy</p>	12				
10	<p><u>Waves</u></p> <p>10.1 Introduction and types of waves -Introduction and differences between longitudinal and transverse waves - Introduction and differences between mechanical and radiation waves</p> <p>10.2 Electromagnet spectrum -Introduction of Electromagnetic waves and Electromagnetic spectrum - Application of electromagnetic waves - Radio waves Infrared waves - light waves -Ultraviolet waves -X-rays -Gamma ray</p> <p>10.3 Introduction of X-ray Photography and methods of uses.</p> <p>10.4 Introduction of CT scan and methods of use.</p> <p>10.5 Reflection of sound waves uses of reflected sound</p> <p>10.6 Uses of ultrasonography technology in health examination</p>	15	<ol style="list-style-type: none"> 1. Group discussion 2. Demonstration 3. Practical 4. Question answer 5. Explanation 	Glass slab, prism, drawing board, thump pins, Pins, Charts, drawing papers, etc	<ol style="list-style-type: none"> 1. Practical performance 2. Viva 3. homework 4. Classwork 	

17	<u>Metal and non-metal</u> 17.1 Introduction of Metal and non-metal - Physical properties of metal and non-metal - Chemical properties of metal and non-metal 17.2 Sources and importance of minerals for human body 17.3 Effect of mercury and lead on the human health	12	1. Discussion 2. Demonstration 3. Question answer 4. Explanation			
4	<u>Evolution</u> 4.1 Concept of evolution 4.2 Evidences of organic evolution 4.2.1 Evidences from fossils 4.2.2 Evidences from comparative morphology and anatomy 4.2.3 Evidence from vestigial organ 4.2.4 Evidences from bridge animals 4.2.5 Embryonic evidences 4.3 Theory of evolution 4.3.1 Darwin's Theory 4.3.2 Lamarack's Theory 4.3.3 Hugo de varies' Mutation Theory	7	1. Demonstration 2. Question answer 3. Explanation	GTS model, chart, etc. Photos of Darwin, Lamarck etc. Chart	1. Memory test 2. Oral test 3. homework 4. Classwork	
	<u>Revision</u>	46				
	<u>ANNUAL EXAMINATION</u>					
Unit	Topics	Working hrs	Teaching methods	Teaching materials	Evaluation & technique tools	Remarks
11	<u>Electricity and magnetism</u> 11.1 introduction of electric current and to solve mathematical problems using $I = Q/t$ method 11.2 Introduction and differences of electromotive force and potential difference 11.3 Define Ohm's unit and use $R = V/I$ 11.4 Introduction of series and parallel combination of potential differences 11.5 Effect of heat and light on electricity 11.6 Introduction of electrical potential - Simple mathematical problems related to electrical potential 11.7 Problems of electricity consumption and electricity tariff.	15	1. Group discussion 2. Demonstration 3. Practical 4. Question answer 5. Explanation	Circuit materials, ammeter, voltmeter resistor, nichrome wire, magnet, compass needle, dip needle, etc.	1. Practical work 2. Oral test 3. class test 4. unit test 5. Involvement 6. Homework	
18	<u>Carbon and its compounds</u> 18.1 Introduction of carbon and its compounds 18.2 Physical and chemical properties of carbon 18.3 Introduction of organic and inorganic compounds 18.4 Differences between organic and	18	1. Group discussion 2. Demonstration 3. Question answer 4. Explanation	chart	1. Oral Test 2. Discussion 3. homework	

	inorganic compounds 18.5 Importance of organic compounds in our daily life <u>Theories of Organic Evolution</u> 4.3 Theory of evolution 4.3.1 Darwin's Theory 4.3.2 Lamarack'sTheroy 4.3.3 Hugo de varies' Mutation Theory					
19	<u>Materials used in daily life</u> -nutrients for plants - fertilizers and its types - advantages and disadvantages of organic and inorganic fertilizer - single fertilizers -Considering factor using chemical fertilizers - Impact of chemical fertilizer on environment	11				
	<u>Revision</u>	44				