CURRICULUM PLAN 2080 SCIENCE GRADE IX						
FIRST TERMINAL EXAMINATION						
Unit	**Topics**	**Working hrs**	**Teaching methods**	**Teaching materials**	**Evaluation& technique tools**	**Remarks**
1	**Science and Scientific Studies** • Scopes of science:- Physics • Chemistry, Biology • Astronomy, Environmental Science • Professional opportunities in the fields of science 1.2 Achievements and challenges brought by science and technology 1.3 Safety measures on scientific experiments 1.4 Scientific measurements 1.41 Introduction of scientific notation 1.42 Introduction and uses of metric prefixes, precision 1.43 Uses and need of average in measurement	5	i. Introduce the fields of science, scientific studies and to seek professional opportunities in these fields. ii. review the achievements and challenges brought by science and technology. iii. adopt safety measures while conducting scientific experimental work iv. Use scientific notation, metric prefixes, precision and average in measurement	Measuring cylinder, pan balance, spring balance, weights, etc.	1. Class Test 2. Homework 3. Viva 4. Judgement of problem solving	
12	**Astronomy and Geology Universe** 12.1 Introduction of Nebula and black hole 12.2 Life cycle of star - Birth -Red giant - Nova and Super nova 12.3. International and national agencies involved in astronomy	3+1 =4	1. Group discussion 2. Demonstration 3. Presentation 4. Question answer 5. Explanation	Movies, Chart, figure of disaster. Etc.	1. Presentation skill 2. Individual involvement 3. Viva 4. Class Test	
7	**Motion and Force** 7.1 Equations of motion -acceleration in st. linear motion -Uniform and non-uniform acceleration, non-uniform velocity - Inertia and effects 7.2.Graph of time motion and acceleration 7.3. Newton's three law of motion -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 7.4. Elasticity and plasticity	8+2 =10	1. Discussion 2. Explanation 3. Problem solving 4. Question answer	Toy car, tin cane, beaker, post card, coin, balloons, rope tog of bar. Rope, spring balance, etc.	1. Problem solving skill 2. Viva 3. homework 4. Class Test 5. Equation derivation	
14	**Atomic structure and chemical bond** 14.1. Introduction of Atomic structure Neils Bohrs atomic structures 14.2 Radio activity 14.3 Radioactivity and emissions -Introduction of nuclear fission and nuclear fusion -Alpha, Beta and Gamma rays	10+1 =11	1. Playing 2. Project work 3. Discussion 4. Question answer 5. Explanation	Valency written cards, molecular formula written cards. Molecular structure card	1. Homework 2. Unit Test 3. Viva 4. Class Test 5. Involvement of discussion and project work 6. Model making	

	Introduction of Atomic energy and their uses 14.4. Valence shell and valence electron, Octet and duplet valence 14.5 Introduction if Ions - Types and formation of Ions - Examples of Ions -Elements upto 20 atomic number 14.6 Chemical bonds and their types 14.7 Formation of chemical bond 14.8 Molecular formula - Methods of writing molecular formula -Find the molecular weight with the crisscross method					
15	**Chemical reaction** 15.1 Introduction of chemical reactions and chemical reactions 15.2 Ways to write balanced chemical equation 15.3 Importance of chemical reaction in daily life 15.4 Endothermic and exothermic reactions	4	1.Discussion 2. Field study 3. Mini file report 4. Question answer	Different chemicals and relevant chemical reactions in lab	1. Balancing equation skill 2. Class activities 3. Viva	
2	**Classification of plants and animals [Organims]** 2.1 Introduce the binomial nomenclature system of classification 2.2 Relationship between different level of classification 2.3 Features of Monera, Protista and Fungi 2.4 Importance of the classification of organisms	4	1. Field study 2. Mini file report 3. Discussion 4. Question answer	Chart, museum specimen, etc	1. Class activities 2. Spotting test 3. Viva 4. Homework 5. Project work	
3, 12,13	**Mushroom** 3.1 Importance of use of mushrooms 3.2 Economic importance of mushroom 3.3 Importance of mushroom for human health 3.4 Ways of conservation of mushroom for longtime 3.5 Lifecycle of mushroom 3.6 Features of poisonous and edible fungi **Nature and Environment**	14	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	1. Drawing skill 2. Class performance 3. Homework 4. Unit Test 5. Terminal Test	
	Revision	52				
	MID TERMINAL EXAMINATION					
Unit	**Topics**	**Working hrs**	**Teaching methods**	**Teaching materials**	**Evaluation& technique tools**	**Remarks**

8	**Machines** 8.1 Introduction of inclined plane, pulley, wheel and axle as simple machine 8.2 Mechanical advantage and velocity ratio of inclined plane, pulley, wheel and axle 8.3 Working principle of simple machine and their efficiency 8.4 complex machine 8.5 Efficiency of simple machine	8	1. Discussion 2. Demonstration 3. Practical 4. Question answer 5. Explanation	Chart paper model of machines, etc.	1. Problem solving skill 2. Unit Test 3. homework 4. Class Test	
16	**Chemistry** **Some gases** 16.1 Hydrogen, Oxygen gas, Nitrogen gas 16.2 Preparation of hydrogen, Nitrogen and oxygen gases in lab 16.3 Chemical and physical properties of hydrogen and oxygen gas, Nitrogen 16.4 Introduction of ozone layer -Formation of ozone layer -depletion of ozone layer Effect of ozone layer depletion	12	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	1. Practical skill 2. Oral test 3.participation evaluation	
5	**Life process** 5.1 Tissue Introduction of types of tissue 5.1.1 Plant tissue - Meristematic tissues - Permanent tissues(Simple tissue and complex tissue and special tissue) 5.1.2 Animal tissue -Epithelial tissue -Muscular tissue -Connective tissue 5.2 Human Nervous system - Central nervous system and Parts of Central Nervous System -Peripheral nervous system -Autonomic Nervous system 5.3 Human Glandular System -Exocrine Gland and their functions -Endocrine Gland and their functions 5.4 Hormones (Plant hormones) -Cytokinen and their functions - Tissue culture and use	13	1. Group discussion 2. Demonstration 3. Field visit 4. Question answer	Chart, ,movies, etc.	1. Participation in discuss 2. Classwork 3. homework	

23	**Information and communication technology** 13.1 Introduction of telecommunication technology 13.2 Introduction of artificial satellite in telecommunication - Significance of artificial in telecommunication 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. 13.4 Uses of online security	16	1. Group discussion 2. Demonstration 3. Practical 4. Question answer 5. Explanation	Demonstration chart, different taste materials, movies, charts, etc.	1. Observation of practical work 2. Oral test 3. homework 4. Class Test	
	Revision	49				
	SECOND TERMINAL EXAM					
Unit	**Topics**	**Working hrs**	**Teaching methods**	**Teaching materials**	**Evaluation& technique tools**	**Remarks**
9	**Sources of energy** -Solar energy -nuclear reaction in sun, -solar energy technology, -biomass energy and its importance - alternative source of energy	12				
10	**Waves** 10.1 Introduction and types of waves -Introduction and differences between longitudinal and transverse waves - Introduction and differences between mechanical and radiation waves 10.2 Electromagnet spectrum -Introduction of Electromagentic waves and Electromagnetic spectrum - Application of electromagnetic waves - Radio waves Infrared waves - light waves -Ultraviolet waves -X-rays -Gamma ray 10.3 Introduction of X-ray Photography and methods of uses. 10.4 Introduction of CT scan and methods of use. 10.5 Reflection of sound waves uses of reflected sound 10.6 Uses of ultrasonography technology in health examination	15	1. Group discussion 2. Demonstration 3. Practical 4. Question answer 5. Explanation	Glass slab, prism, drawing board, thump pins, Pins, Charts, drawing papers, etc	1. Practical performance 2. Viva 3. homework 4. Classwork	

17	**Metal and non-metal** 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	**Evolution** 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'sTheroy 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	
	Revision	46				
	ANNUAL EXAMINATION					
Unit	**Topics**	**Working hrs**	**Teaching methods**	**Teaching materials**	**Evaluation& technique tools**	**Remarks**
11	**Electricity and magentism** 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 11.5Effect 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 resister, 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	**Carbon and its compounds** 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 **Theories of Organic Evolution** 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	**Materials used in daily life** -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				
	Revision	44				