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**FIRST TERMINAL EXAMINATION**

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| --- | --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **TP** | **Teaching methods** | **Teaching materials** | **Evaluation& technique tools** | **R** |
| 1 | **Science and Scientific Studies**   * 1. Scientific process skills   2. Scientific learning   3. Fields of science   4. Safety measures of scientific experiment   5. Achievements and challenges of science and technology   6. Scientific measurement   7. Way of scientific notation   Importance of least count and average | 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 |  |
| 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 | 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  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 | 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 |  |
| 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 | 15 |
| 2 | **Classification of plants and animals [Organism]**  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 | 2 |
| 3 | **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 | 4 | 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 | 3 |
| 6 | **Nature and Environment**  6.1 Ecosystem  Components of ecosystem (Biotic and Abiotic)  Terrestrial Ecosystem (Grassland)  Aquatic ecosystem (Aquatic)  Food chain, Food web  6.2 Interaction between the living beings | 7 | 1.Discussion  2. Observation  3. Field study  4. Question answer  5. Explanation | Charts, figure of different types of ecosystem,  Interaction of organisms etc | 1. Drawing skill  2. Class performance  3. Homework  4. Unit Test  5. Project work | 6 |
|  | **Revision** |  |  |  |  |  |

**MID TERMINAL EXAMINATION**

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| **Unit** | **Topics** | **TP** | **Teaching methods** | **Teaching materials** | **Evaluation& technique tools** | **R** |
| 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 |  |
| 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 | 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 |  |
|  | **Revision** |  |  |  |  |  |

**SECOND TERMINAL EXAMINATION**

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| **Unit** | **Topics** | **TP** | **Teaching methods** | **Teaching materials** | **Evaluation& technique tools** | **R** |
| 9 | **Sources of energy**  -Solar energy  -nuclear reaction in sun,  -solar energy technology,  -biomass energy and its importance  - alternative sources of energy | 12 | 1. Group discussion  2. Demonstration  3. Practical  4. Question answer  5. Explanation |  | 1. Participation in discuss  2. Classwork  3. homework |  |
| 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** |  |  |  |  |  |

**ANNUAL EXAMINATION**

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| --- | --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **TP** | **Teaching methods** | **Teaching materials** | **Evaluation& technique tools** | **R** |
| 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 inorganic compounds  18.5 Importance of organic compounds in our daily life | 18 | 1. Group discussion  2. Demonstration  3.Question answer  4. Explanation | Chart | 1. Oral Test  2. Discussion  3. homework |  |
| 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 | 1. Group discussion  2. Demonstration  3.Question answer  4. Explanation |  | 1. Practical work  2. Oral test  3. class test  4. unit test  5. Homework |  |
|  | **Revision** |  |  |  |  |  |