**ljlzi6Ls/0f tflnsf (Specification chart)**

**Grade: 8 Full Marks: 50**

**Subject: lj1fg tyf k|ljlw Time: 2 hrs**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | | |  | **;+1fgfTds tx** | | | | | | | | |  | |  |
| **qm=**  **;+=** | **PsfO** | | | **sfo{**  **306f** | **1fg**  **-@)Ü\_** | | | **af]w**  **-#)Ü\_** | | | | **k|of]u**  **-#)Ü\_** | **pRr bIftf**  **-#)Ü\_** | **;d"xut**  **cª\s ef/** | | **PsfOut**  **cª\s ef/** |
| ! | j}1flgs l;sfO | | | !) | ax' j}slNks  k|Zg  -@×!\_  clt 5f]6f=  k|Zg  -@×!\_  5f]6f=k|Zg  -!×@\_  nfdf=  k|Zg  -!×$ | | | ax' j}slNks  k|Zg  -#×!\_  clt 5f]6f=  k|Zg  -@×!\_  5f]6f=k|Zg  -#×@\_  nfdf=  k|Zg  -!×$\_ | | | | ax' j}slNks  k|Zg  -#×!\_  clt 5f]6f=  k|Zg  -@×!\_  5f]6f=k|Zg  -#×@\_  nfdf=  k|Zg  -!×$\_ | ax' j}slNks  k|Zg  -@×!\_  clt 5f]6f=  k|Zg  -@×!\_  5f]6f=k|Zg  -!×@\_  nfdf=  k|Zg  -!×$\_ | ( | | # |
| @ | ;"rgf tyf ;~rf/ k|ljlw | | | #) | ^ |
| # | hLj / ltgLx¿sf] agf]6 | | | !@ | !@ | | $ |
| $ | h}ljs ljljwtf / jftfj/0f | | | \* | # |
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|  | |  | **;du| k|Zg of]hgf** | | | | | | | |  | |  | |
| qm=;+= | | k|Zgsf] k|sf/ | k|lt k|Zg cª\sef/ | | | k|Zg ;ª\Vof | | | | | hDdf k|Zg | | hDdf cª\sef/ | |
| ! | | ax'j}slNks k|Zg | ! cª\s | | | @ | # | | # | @ | !) | | !) | |
| @ | | clt 5f]6f=k|Zg | ! cª\s | | | @ | @ | | @ | @ | \* | | \* | |
| # | | 5f]6f=k|Zg | @ cª\s | | | ! | # | | # | ! | \* | | !^ | |
| $ | | nfdf=k|Zg | $ cª\s | | | ! | ! | | ! | ! | $ | | !^ | |
|  | | s'n |  | | | ^ | ( | | ( | ^ | #) | | %) | |

b|i6JoM

• k|Zg lgdf{0f ubf{ 1fg, af]w, k|of]u / pRr bIftf -ljZn]if0f, d"Nofª\sg / l;h{gf\_ nfO{ dfly plNnlvt sfo{ 306f / cª\sef/ cg';f/ agfpg'kg{] 5 .

• ax'j}slNks k|Zg / clt 5f]6f] k|Zg ! cª\s, 5f]6f] k|Zg @ cª\s / nfdf] k|Zg $ cª\ssf x'g] 5g\ .

• ;d"xsf] hDdf cª\sef/df 36a9 ug{ kfOg] 5}g t/ ;d"xleqsf PsfOx¿df ±+ @ x'g ;Sg] u/L k|Zg agfpg ;lsg] 5 . t/ s'g} PsfOnfO{ z"Go ug{ kfOg] 5}g .

• @ jf $ cª\ssf k|Zgsf nflu Ps k|Zgsf] Ps pQ/ (1 Mark will be assigned per element expected as correct response) cfpg] u/L k|Zg lgdf{0f ug'{kg{] 5 .

• 5f]6f] / nfdf] k|Zg Pp6} txsf] jf b'O{ jf PseGbf a9L ;+1fgfTds If]q cGtu{tsf txx¿ ;d]6\g] u/L k|Zg agfpg klg ;lsg] 5 . t/ ;du|df plNnlvt txsf] hDdf ef/;Fu ldNg] ug'{k5{ .

• j:t'ut k|Zgsf] k|Zgkq 5'6\6} / ljifout k|Zgsf] k|Zgkq 5'6\6} tof/ ug'{kg{] 5 .

• j:t'ut k|Zgsf] nflu !% ldg]6 / ljifout kZgsf nflu ! 3G6f $% ldg]6 ;do /xg] 5 .

**cfGtl/s d"Nofª\sg**

lgdf{0ffTds d"Nofª\sgsf] cª\ssf] lglZrt ef/ cfGtl/s d"Nofª\sgsf ¿kdf ;dfj]z ul/g] 5 . o;sf nflu lgdf{0ffTds d"Nofª\sgnfO{ clen]vLs/0f u/L k|To]s ljBfyL{sf] sfo{;~rlosf Jojl:yt u/L /fVg' k5{ . o:tf] clen]vsf cfwf/df lgDglnlvt kIfdf tf]lsPcg';f/sf] ef/sf] cª\s cfGtl/s d"Nofª\sgsf ¿kdf ;dfj]z ul/g] 5 .

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| --- | --- | --- | --- |
| qm=; | d"Nofª\sgsf cfwf/ | lj:t[tLs/0f | ef/ |
| ! | ;xeflutf | xflh/L jf pkl:ylt @, l;sfO lqmofsnfkdf ;xeflutf @ | $ |
| @ | k|of]ufTds tyf kl/of]hgf sfo{ | k|of]ufTds sfo{ ;~rfng / k|:t'tLs/0f  kl/of]hgf sfo{ ;~rfng / k|:t'tLs/0f | @) |
|  |  | k|of]ufTds sfo{ clen]vLs/0f / Joj:yfkg  kl/of]hgf sfo{ clen]vLs/0f / Joj:yfkg | !) |
|  |  | s'g} Pp6f kl/of]hgf sfo{ jf k|of]ufTds sfo{sf] k|:t'tLs/0f / df}lns k|Zgf]Q/ -Viva Voce\_ lrqfª\sg÷gfdª\sg÷nIf0f j0f{g÷:kf]l6ª | ^ |
| # | q}dfl;s k/LIff |  | !) |
|  | **hDdf** |  | **%)** |

plNnlvt tflnsfsf g+= ! b]lv # ;Ddsf If]qut lj|mofsnfk lgoldt l;sfO ;xhLs/0fs} j|mddf u/fpg'k5{ . pSt lj|mofsnfknfO{ lgdf{0ffTds d"Nofª\sg;Fu cGt/;DalGwt u/L To;sf] clen]v klg /fVg'kg]{ 5 .

**FIRST TERMINAL EXAMINATION**

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| --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **TP** | **Teaching methods** | **Teaching materials** | **Evaluation& technique tools** |
| 1 | **Scientific Learning**   * Practical work of science * Precaution in science lab * Scientific research and report writing | 9 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Measuring cylinder, pan balance, spring balance, weights,  Chemicals, indicators, etc. | 1. Class Test  2. Homework  3. Viva  4. Judgment of problem solving  5. Report writing |
| 2 | **Information and Communication Technology**   * Introduction of Information and communication technology(ICT) * Concept of some technological devices (smartphone, printer, projector, scanner, computer, photocopy etc.) | 8 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Computer, Internet, Smartphone, Printer, Scanner, projector, etc. | 1. Class Test  2. Homework  3. Viva  4. Practical and project work |
| 3 | **Cell**   * Functions of cell organelles * Differences between plant cell and animal cell * Interrelationship between cells, tissue and organs. * Unicellular organisms (Amoeba, virus, bacteria and Fungi): Introduction, advantages and disadvantages | 10 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Model of plant cell and animal cell, Charts, microscope, permanent slide, etc. | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Report writing |
| 6 | **a. Force and Motion**   * Introduction to motion and rest * Introduction to relative velocity, average velocity * Introduction of acceleration   **b. Lever**   * Introduction of lever and its types, principle of lever * Mechanical advantage, velocity ratio and efficiency with Numerical problem. | 6 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Problem solving | Toy cars, stop watch, etc.  Sample of lever  etc. | 1. Unit test  2. Project work  3. Viva  4. Practical file  5. Problem solving |
| 10 | **Matter**   * Atomic structure of elements (Upto atomic no 20) * Valency of elements (upto atomic no 20) * Concept of modern periodic table and modern periodic law * Position of first twenty elements in modern periodic table * Number of shell, valency, atomic size and metallic character in group and period. * Molecular formula of different compounds * Molecular weight and calculation of molecular weight * Simple word equation and balanced formula equation | 11 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Drawing | Chart of modern Periodic table, Atomic model, etc. | 1. Class Test  2. Homework  3. Viva  4. Drawing  5. Report writing |
| 12 | **The earth and the universe**  **Minerals**   * Introduction of minerals and its types * Properties and uses of minerals * Some important metals found in Nepal | 4 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Sample of minerals, metals found in Nepal, steel, bronze, etc.  Chart, videos, etc. | 1. Class Test  2. Homework  3. Viva  4. Project work and Report writing |
|  | **Revision** |  |  |  |  |

**MID TERMINAL EXAMINATION**

|  |  |  |  |  |  |
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| **Unit** | **Topics** | **TP** | **Teaching methods** | **Teaching materials** | **Evaluation & technique tools** |
| 2 | **Information and Communication Technology**   * Search Engine, email, website, ISP, etc. * Social networking sites: Introduction and application * Cyber crime, cyber crime act in Nepal, cyber law and Internet Security tactics. | 10 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Computer, Internet, Smartphone, Printer, Scanner, projector, etc. | 1. Class Test  2. Homework  3. Viva  4. Practical and project work |
| 4 | **Biodiversity and the environment**   * Introduction and present status of biodiversity in Nepal * Causes of loss of biodiversity * Medicinal plants and their uses * Conservation of biodiversity * Sustainable development and its importance * Sustainable development goals in Nepal | 10 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Field visit | Plant, mushroom, charts, flowchart, movies, etc. | 1. Class Test  2. Homework  3. Viva  4. Project work and  Report writing |
| 7 | **Energy in daily life**  **a. Heat**   * Introduction of heat * Transmission of heat * Structure and function of thermos flask * Green house effect : Causes, effects and prevention   **b. Light**   * Spherical mirror and its types * Terms related with spherical mirror * Ray diagram in concave and convex mirror * Uses of concave and convex mirror | 13 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Problem solving | Solar panel, wind mill model, model of artificial greenhouse, thermos flask, beaker, burner, water, etc.  Torch, candle, bulb, concave and convex mirror, plane mirror,  Video, etc. | 1. Class Test  2. Homework  3. Viva  4. Judgement of problem solving  5. Report writing  6. Drawing |
| 11 | **Materials used in daily life**  **a. Acid, base and salt**   * Introduction of acid, base and salt and their physical and chemical properties * Uses of acid, base and salt * Acid rain: causes, effects and prevention   **b. Water**   * Differences between hard water and soft water * Caused of hardness of water and types * Removal of hardness of water * Advantages and disadvantages of hard and soft water * Alloy: Introduction. Composition and uses of steel, brass and bronze | 10 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Acid, base and salt solution, Indicators, water from river, pond, soap, etc. | 1. Class Test  2. Homework  3. Viva  4. Report writing |
| 12 | **The earth and the universe**  **The universe**   * Introduction of universe, Asteroids and comets * Galaxies, constellation, Meteors and meteorites (Introduction, differences and similarities) | 3 |  |  |  |
|  | **Revision** |  |  |  |  |

**SECOND TERMINAL EXAMINATION**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **TP** | **Teaching methods** | **Teaching materials** | **Evaluation& technique tools** |
| 5 | **Life process**   * Asexual reproduction in plants and animals * Vegetative propagation and its types * Sexual reproduction in plants and animals * Parts of seeds and their functions * Dispersal of seed and ways * Germination of seeds and conditions required | 10 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Field visit | Potted plane, heart of hen/goat, potato, fern, charts.  Charts, drawings, starch test kit, chemical as KOH, NaHCO3, plastic bag, potted plant, spirit lamp, test tubes, Petri dish, etc. | 1. Class Test  2. Homework  3. Viva  4. Judgment of problem solving  5. Report writing |
| 9 | **Electricity**   * Introduction of electricity and devices used in household wiring (fuse MCB, switch, E.meter) * Functions of live wire, neutral wire and earth wire * Safe connection of electrical circuit * Preparation of electric circuit * Electro billing (How to calculate bill of electricity) | 15 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Problem solving | Electronic device of domestic circuit, ammeter, voltmeter, electric circuit, etc | 1. Class Test  2. Homework  3. Viva  4. Judgment of problem solving  5. Report writing |
| 12 | **The earth and the universe**  **History of the earth**   * Origin of the earth (hypothesis) * Eras: Duration and evolution of organism | 4 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Sample of minerals, metals found in Nepal, steel, bronze, etc.  Chart, videos, etc. | 1. Class Test  2. Homework  3. Viva  4. Project work and Report writing |
| 6 | **Pressure**   * Introduction of pressure and numerical problems related with pressure * Liquid pressure and its characteristics   Atmospheric pressure | 4 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Problem solving | Fountain pen, brick, foam, heeled and flat shoes, tin cans, balloons, nails, etc. | 1. Unit test  2. Project work  3. Viva  4. Practical file  5. Problem solving |
|  | **Revision** |  |  |  |  |

**BLE Pre-Board EXAMINATION**

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| --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **TP** | **Teaching methods** | **Teaching materials** | **Evaluation& technique tools** |
| 2 | **Information and Communication Technology**   * Introduction of robotics and virtual reality. * Artificial Intelligence and compound computing – Introduction and uses. | 7 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Computer, Internet, Smartphone, Printer, Scanner, projector, etc. | 1. Class Test  2. Homework  3. Viva  4. Practical and project work |
| 7 | **Energy in daily life**  **Sound wave**   * Sound wave * Terms related with sound wave * Audible sound, infrasonic sound and ultrasonic sound * Intensity of sound and its measurement * Sound pollution: causes, effects and control measures | 7 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration  5. Problem solving | Video, rope, etc. | 1. Class Test  2. Homework  3. Viva  4. Judgment of problem solving  5. Report writing  6. Drawing |
| 8 | **Magnetism**   * Natural and artificial magnetic differences and uses * Molecular theory of magnet * Demagnetization of magnet * Earth magnet and its effects | 11 | 1. Discussion  2. Question answer  3. Practical  4. Demonstration | Permanent Magnet, magnetic compass, dips needle, keeper of iron, etc. | 1. Class Test  2. Homework  3. Viva  4. Report writing |
|  | **Revision** |  |  |  |  |