**ljlzi6Ls/0f tflnsf (Test specification chart)**

Grade 8 Full Marks: 50

Subject: Mathematics Time: 2hrs

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **S.N.** | **Areas** | **Total Working Hours** | **Know**  **ledge** | | **Understanding** | | **Application** | | **Higher ability** | | **Total number of items** | **Total number of question** | **Total Marks** |
| Number  of items | Marks | Number of items | Marks | Number of items | Marks | Number of items | Marks |  |  |  |
| 1 | Sets | 10 | 1 | 1 | 1 | 1 | 2 | 3 | 1 | 1 | 5 | 2 | 3 |
| 2 | Statistics | 10 | 3 |
| 3 | Arithmetic | 45 | 2 | 2 | 3 | 4 | 3 | 5 | 2 | 3 | 10 | 3 | 14 |
| 4 | Measurement | 15 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 1 | 4 | 1 | 5 |
| 5 | Algebra | 30 | 2 | 2 | 1 | 2 | 2 | 4 | 1 | 2 | 6 | 3 | 10 |
| 6 | Geometry | 50 | 2 | 2 | 2 | 4 | 2 | 6 | 2 | 3 | 8 | 3 | 15 |
|  | Total | 160 | 8 | 8 | 8 | 12 | 10 | 20 | 7 | 10 | 33 | 12 | 50 |

b|i6Jo

• k|Zg kq lgdf{0f ubf{ k|To]s If]qdf / ;du|df 1fg, af]w, k|of]u / pRr bIftfsf nflu tf]lsP cg';f/sf] ef/ ldn]sf] x'g'kb{5 . t/ ;+1fgfTds txdf @ cª\s;Dd 36a9 x'g ;Sg] 5 .

• ;Gbe{ lbP/ k|Zgx¿ lgdf{0f ug'{kg]{ 5 . k|To]s k|Zgdf Ps eGbf a9L ;+1fgfTds txsf pkk|Zgx¿ ;dfj]z ug{ ;lsg] 5 .

•Application / Higher ability txsf k|Zgx¿ lgdf{0f ubf{ ;DalGwt If]qsf cnfjf cGo If]qsf ljifoj:t';Fu ;DalGwt k|Zgx¿ klg /xg ;Sg] 5g\ .

• x/]s If]q cGtu{t /x]sf ;a} pkIf]qsf ljifoj:t'x¿ ;dfg'kflts ¿kdf ;dfj]z x'g] u/L k|Zgx¿ lgdf{0f ug'{kg]{ 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 lgDg lnlvt kIfdf tf]lsP cg';f/sf] ef/sf] cª\s cfGtl/s d"Nofª\sgsf ¿kdf ;dfj]z ul/g] 5 .

|  |  |  |
| --- | --- | --- |
| qmd ;ª\Vof | d"Nofª\sgsf cfwf/ | ef/ |
| ! | ;xeflutf M sIff ;xeflutf / l;sfOdf ;lqmotf | $ |
| @ | k|of]ufTds sfo{, kl/of]hgf sfo{ jf cGo sfo{snfk | #^ |
| # | q}dfl;s k/LIff | !) |
|  | **hDdf** | **%)** |

plNnlvt tflnsfsf g+= ! b]lv # ;Ddsf If]qut lj|mofsnfk lgoldt l;sfO ;xhLs/0f s} 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 2082**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **Content** | **TP** | **Teaching Method** | **Teaching Material** | **Evaluation** | **R** |
| 1 | Set | * Set review * Notation of set * Method of describing sets * Cardinal number of sets * Types of set * Relationship between sets * Representation of set in Venn-diagram * Universal sets, sub-sets, proper sub-sets, improper sub-sets and No. of subsets. | **7** | * Question/Answer * Demonstration * Analysis/synthesis * Practical |  | * oral test * Unit test * practical * Project work/ field work * Exam |  |
| **2** | Arithmetic | * Number System in different Bases * Conversion of numbers * Real Numbers * Types of Numbers * Sign rule of addition, subtraction, multiplication and division | **10** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/ * field work * Exam |  |
| **3** | Mensuration | * Area and Perimeter of plane figure (Triangle, Quadrilateral and Circle) | **10** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/   field work   * Exam |  |
| **4** | Geometry | * Angle * Angles and parallel line * Types of angles (Vertically opposite angles, adjacent angle, complementary angle and supplementary angle) * Types of angles (Alternate angle, co-interior angle, corresponding angle) | **10** | * Question answer * Demonstration * Problem solving * Research * Practical |  | * oral test * Unit test * practical * Project work/   field work   * Exam |  |
| **5** | Algebra | * Algebraic terms and expression * Polynomial and degree of polynomials * Evaluation of algebraic expressions * Special products and formulae | **8** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/   field work   * Exam |  |
| 6 | Statistics | * Collection of data * Frequency table * Cumulative frequency table * Graphical representation of data | **7** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/   field work   * Exam |  |
| 7 | Transformation |  |  |  |  |  |  |
| 8 | Co-ordinate |  |  |  |  |  |  |
| 9 | Revision |  | **7** |  |  |  |  |

**First term Examination 2082 Specification Grid**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Types of Question** | | | | **Total no.**  **of items** | **total no.of questions** | **Total Marks** | **Total Time** |
| **K** | **C** | **A** | **HA** |
| Set | 1 | 1 | 2 | 1 | 5 | 2 | 3 | **7.2min** |
| Statistics | 3 | **7.2min** |
| Arithmetic | 2 | 3 | 3 | 2 | 10 | 3 | 14 | **33.6min** |
| Mensuration | 1 | 1 | 1 | 1 | 4 | 1 | 5 | **12min** |
| Geometry | 2 | 2 | 2 | 2 | 8 | 3 | 15 | **36min** |
| Algebra | 2 | 1 | 2 | 1 | 6 | 3 | 10 | **24min** |
| Total | **8** | **8** | **10** | **7** | **33** | **12** | **50** | **120min** |

**Mid Terminal Examination 2082**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **Content** | **TP** | **Teaching Method** | **Teaching Material** | **Evaluation** | **R** |
| 1 | Set |  |  |  |  |  |  |
| **2** | Arithmetic | * Real Numbers * Terminating and non-terminating decimal * Comparison between rational and irrational number * Real Number * Scientific notation * Ratio and proportion * comparison of quantities of same kind * compounded ratio * Proportion * types of proportion | **9** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| **3** | Mensuration | * Area and volume of solid | **6** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| **4** | Geometry | * Triangle * Experimental verification of properties of triangle * Congruent triangle * Experiment on condition of congruency * Similar triangle * Condition of similarity | **12** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| **5** | Algebra | * Factors and factorization * H.C.F and L.C.M * Laws of indices | **9** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 6 | Statistics | * Measures of central tendency * Arithmetic mean * Meadian * Mode * Quartile * Range | **10** | * Question answer * Demonstration * Problem solving   Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 7 | Transformation | * Reflection of Geometrical figure * Rotation of geometrical Figure | **7** | * Question answer * Demonstration * Problem solving   Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 8 | Co-ordinate |  |  |  |  |  |  |
| 9 | Revision |  | **2** |  |  |  |  |

**Mid- term Examination-2082 Specification Grid**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Types of Question** | | | | **Total no. of items** | **total no.of questions** | **Total Marks** | **Total Time** |
| **K** | **C** | **A** | **HA** |
| Set | 1 | 1 | 2 | 1 | 5 | 2 | 3 | **7.2min** |
| Statistics | 3 | **7.2min** |
| Arithmetic | 2 | 3 | 3 | 2 | 10 | 3 | 14 | **33.6min** |
| Mensuration | 1 | 1 | 1 | 1 | 4 | 1 | 5 | **12min** |
| Geometry | 2 | 2 | 2 | 2 | 8 | 2 | 9 | **36min**  **24min** |
| Transformation | 1 | 6 |
| Algebra | 2 | 1 | 2 | 1 | 6 | 3 | 10 | **120min** |
| total | **8** | **8** | **10** | **7** | **33** | **12** | **50** | **7.2min** |

**Second Terminal Examination 2082**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **Content** | **TP** | **Teaching Method** | **Teaching Material** | **Evaluation** | **R** |
| 1 | Set |  |  |  |  |  |  |
| **2** | Arithmetic | * Profit and loss * Unitary method | **10** | * Question answer * Demonstration * Problem solving * Research * Field visit |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| **3** | Mensuration | * Solid and their nets | **3** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work * Exam |  |
| **4** | Geometry | * Quadrilateral and regular polygon | **8** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| **5** | Algebra | * Equation and Graph * Linear equation with one variable and their solution * Linear equation with two variable and their solution * Simultaneous equation, solving method and application * Quadratic equation, solving by factorization method | **12** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 6 | Statistics |  |  |  |  |  |  |
| 7 | Transformation |  |  |  |  |  |  |
| 8 | Co-ordinate | * Pythagoras Theorem * Pythagorean triples | **7** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 9 | Symmetry, Design and Tessellation | * Symmetrical and asymmetrical shapes * Line or axis of symmetry * Tessellation and types of tessellation | **2** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * practical * Project work * Exam |  |
| 10 | Revision |  | **4** |  |  |  |  |

**Second-term Examination 2082 Specification Grid**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Types of Question** | | | | **Total no. of items** | **total no. of questions** | **Total Marks** | **Total Time** |
| **K** | **C** | **A** | **HA** |
| Set | **1** | **1** | **2** | **1** | **5** | **2** | **3** | **7.2min** |
| Statistics | **3** | **7.2min** |
| Arithmetic | **2** | **3** | **3** | **2** | **10** | **3** | **14** | **33.6min** |
| Mensuration | **1** | **1** | **1** | **1** | **4** | **1** | **5** | **12min** |
| Geometry | **2** | **2** | **2** | **2** | **8** | **2** | **9** | **36min**  **24min** |
| Transformation | **1** | **6** |
| Algebra | **2** | **1** | **2** | **1** | **6** | **3** | **10** | **120min** |
| total | **8** | **8** | **10** | **7** | **33** | **12** | **50** | **7.2min** |

**BLE Pre-Board Examination 2082**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **Content** | **TP** | **Teaching Method** | **Teaching Material** | **Evaluation** | **R** |
| 1 | Set |  | **4** |  |  |  |  |
| **2** | Arithmetic | * Simple Interest | **7** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| **3** | Mensuration | * Revision | **5** |  |  |  |  |
| **4** | Geometry | * Revision | **5** |  |  |  |  |
| **5** | Algebra | * Rational Expression * Reduction of rational expression to their lowest term * Multiplication, division, Addition and subtraction of rational expression. | **10** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 6 | Statistics |  | **2** |  |  |  |  |
| 7 | Transformation | * Displacement of geometrical shapes | **4** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 8 | Co-ordinate | * Distance between two points | **5** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 9 | Symmetry, Design and Tessellation |  | **2** |  |  |  |  |
| 10 | Bearing and Scale drawing | * Scale Drawing -Review | **4** | * Question answer * Demonstration * Problem solving * Research |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 11 | Revision |  | **5** |  |  |  |  |

**BLE Pre-Board Examination 2082**

**Time 3:00 hours Specification Grid**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Types of Question** | | | | **Total no.of items** | **total no.of questions** | **Total Marks** | **Total Time** |
| **K** | **C** | **A** | **HA** |
| Set | **1** | **1** | **2** | **1** | **5** | **2** | **3** | **7.2min** |
| Statistics | **3** | **7.2min** |
| Arithmetic | **2** | **3** | **3** | **2** | **10** | **3** | **14** | **33.6min** |
| Mensuration | **1** | **1** | **1** | **1** | **4** | **1** | **5** | **12min** |
| Geometry | **2** | **2** | **2** | **2** | **8** | **3** | **15** | **36min** |
| Algebra | **2** | **1** | **2** | **1** | **6** | **3** | **10** | **24min** |
| total | **8** | **8** | **10** | **7** | **33** | **12** | **50** | **120min** |