**First Terminal Examination 2082**

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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **Content** | **TP** | **Teaching Method** | **Teaching Material** | **Evaluation** | **R** |
| 1 | Set | * Word problems related to two sets , three sets and Venn-diagram | **7** | * Question/Answer * Demonstration * Practical work * Problem solving | Two or three ring and wooden block numbers | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 2 | Arithmetic | * Compound interest(annual at most 3 years, semiyearly at most 2 years and quarterly at most 1 year) * Population growth and * compound depreciation | **14** | * Question/Answer * Demonstration * Practical work * Visit bank/village * Analysis/Synthesis * Problem solving |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 3 | Mensuration | * Pyramid- Introduction, Surface area and Volume of square based pyramid. * Cone- Introduction, Surface area and Volume | **10** | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 4 | Algebra | * Sequence and Series (Arithmetic Sequence, Arithmetic means, Sum of n terms of an Arithmetic Series) * Rational Expression | **8** | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 5 | Geometry | * Area of Triangle and quadrilateral * Diagonal divides the parallelogram into two equal halves . * Parallelograms standing on same base and between same parallels are equal in area. * Area of triangle is half of the area of parallelogram standing on the same base and between the same parallels * Triangles on the same base and between the same parallels are equal in area. * Construction * Construction of triangle whose area is equal to the area of the given triangle * Construction of parallelogram whose area is equal to the area of the given parallelogram | **13** | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 6 | Statistics | * Arithmetic Mean | **3** | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 7 | Trigonometry | * Height and Distance (either angle of elevation or angle of depression is given0 | **5** | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
|  |  | Total ETP |  |  |  |  |  |

**First term: 2082**

**Subject: Mathematics Class: 10 Full Marks: 75 Time : 3hrs**

**Specification Grid**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Content** | **Types of Question** | | | | **total no.of items** | **total no.of question** | **Total Marks** | **Total Time** |
| **K** | **C** | **A** | **HA** |
| Set | * Word problems related to two sets , three sets and Venn-diagram | **1** | **1** | **1** | **1** | **4** | **1** | **6** | **14min** |
| Arithmetic | * Compound interest(annual at most 3 years, semiyearly at most 2 years and quarterly at most 1 year) * Population growth and compound depreciation | **2** | **2** | **3** | **2** | **9** | **3** | **15** | **36min** |
| Mensuration | * Pyramid- Introduction, Surface area and Volume of square based pyramid. * Cone- Introduction, Surface area and Volume | **2** | **2** | **3** | **2** | **9** | **3** | **13** | **31min** |
| Algebra | * Sequence and Series ( Arithmetic Sequence , Arithmetic means, Sum of n terms of an Arithmetic Series) * Rational Expression | **2** | **3** | **3** | **2** | **10** | **4** | **18** | **43min** |
| Geometry | * Area of Triangle and quadrilateral * Construction | **2** | **3** | **2** | **2** | **9** | **3** | **13** | **32min** |
| Statistics | * Arithmetic Mean | **1** | **1** | **1** | **1** | **4** | **1** | **6** | **14min** |
| Trigonometry | * Height and Distance | **1** | **1** | **1** | **1** | **4** | **1** | **4** | **10min** |
| Total |  | **11** | **13** | **14** | **11** | **49** | **16** | **75** | **180min** |

**Mid-Terminal Examination 2082**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **Content** | **TP** | **Teaching Method** | **Teaching Material** | **Evaluation** | **R** |
| 1 | Set |  |  |  |  |  |  |
| 2 | Arithmetic | * Money and Exchange Rate | 6 | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test/Unit test * practical * Project work/field work * Exam |  |
| **3** | Mensuration | * Surface area and volume of some 3-D shapes review * Combination of prism and pyramid * Combination of Squared based Pyramids * Combination of hemi-sphere and cylinder * Combination of Cylinder and cone * Combination of cones | 8 | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test/Unit test * practical * Project work/field work * Exam |  |
| **4** | Algebra | * Geometric Sequence, Means, sum of n terms of geometric series and relation between A.M and G.M * Exponential Equations | 10 | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test/Unit test * practical * Project work/field work * Exam |  |
| **5** | Geometry | * Circle * Definition of terms related to circle. * Theorem related to arcs and the angles subtended by them * Theorem based on the angles subtended by the same arc. * Theorems based on cyclic quadrilateral * Construction * Construction of parallelogram whose area is equal to the given triangle * Construction of triangle whose area is equal to the given parallelogram. | 15 | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test/Unit test * practical * Project work/field work * Exam |  |
| **6** | Statistics | * Median and Quartiles | 6 | * Question/Answer * Demonstration * Practical work * Problem solving |  | * oral test/Unit test * practical * Project work/field work * Exam |  |
| **7** | Probability | * Addition law of probability * Dependent and independent events * Multiplication law of probability * Probability tree diagram | 8 | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test/Unit test * practical * Project work/field work * Exam |  |
|  |  | Total |  |  |  |  |  |

**Mid- term 2082 Class: 10 Full Marks: 75 Time : 3hrs**

**Specification Grid**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Area** | **Content** | **Types of Question** | | | | **total no.**  **of items** | **total no.of question** | **Total Marks** | **Total Time** |
| **K** | **C** | **A** | **HA** |
| Set | * Word problems related to two sets , three sets and Venn-diagram | **1** | **1** | **1** | **1** | **4** | **1** | **6** |  |
| Arithmetic | * Compound interest(annual at most 3 years, semiyearly at most 2 years and quarterly at most 1 year) * Population growth and compound depreciation Population growth and compound depreciation * Money and Money Exchange | **2** | **2** | **3** | **2** | **9** | **3** | **13** |  |
| Mensuration | * Pyramid- Introduction, Surface area and Volume of square based pyramid. * Cone- Introduction, Surface area and Volume * Surface area and volume of some 3-D shapes review * Combination of prism and pyramid * Combination of Squared based Pyramids * Combination of hemi-sphere and cylinder * Combination of Cylinder and cone * Combination of cones | **2** | **2** | **2** | **2** | **8** | **3** | **13** |  |
| Algebra | * Sequence and Series ( Arithmetic Sequence , Arithmetic means, Sum of n terms of an Arithmetic Series) * Rational Expression * Geometric Sequence, Means, sum of n terms of geometric series and relation between A.M and G.M * Exponential Equations | **2** | **2** | **3** | **1** | **8** | **3** | **15** |  |
| Geometry | * Area of Triangle and quadrilateral * Circle * Construction | **2** | **2** | **2** | **2** | **8** | **3** | **13** |  |
| Trigonometry | * Height and Distance | **1** | **1** | **1** | **1** | **4** | **1** | **4** |  |
| Statistics | * Median and Quartiles | **1** | **1** | **1** | **1** | **4** | **1** | **6** |  |
| Probability | * Addition law of probability * Dependent and independent events * Multiplication law of probability * Probability tree diagram | **1** | **1** | **1** | **1** | **4** | **1** | **5** |  |
| Total |  | **12** | **12** | **14** | **11** | **49** | **16** | **75** | **180min** |

**Pre- Qualifying Examination -2082**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Unit** | **Topics** | **Content** | **TP** | **Teaching Method** | **Teaching Material** | **Evaluation** | **R** |
| 1 | Set |  |  |  |  |  |  |
| 2 | Arithmetic |  |  |  |  |  |  |
| 3 | Mensuration | * Cost Estimation | 10 | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 4 | Algebra | * Quadratic Equations * Solution of Quadratic equation * Application of quadratic equation | 10 | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 5 | Geometry | * Construction * Construction of triangle and quadrilaterals having equal areas | 10 | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 6 | Statistics | * Mode of continuous data * Range of continuous data * Relationship between Mean, Median and Mode | 7 | * Question/Answer * Demonstration * Practical work * Analysis/Synthesis * Problem solving |  | * oral test * Unit test * practical * Project work/field work * Exam |  |
| 7 |  |  |  |  |  |  |  |
| 8 | Trigonometry |  |  |  |  |  |  |
|  |  | Total ETP |  |  |  |  |  |

**Class: 10 Full Marks: 75 Time : 3hrs**

**Pre- Qualifying Examination -2082**

**Specification Grid**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| SN | Area | Knowledge | | Understanding | | Application | | Higher ability | | Total no.of items | Total no.of question | Total marks | Total time  (min) |
| No.of item | Marks | No.of item | Marks | No.of item | Marks | No.of item | Marks |
| **1** | **Set** | **1** | **1** | **1** | **1** | **1** | **3** | **1** | **1** | **4** | **1** | **6** | **14** |
| **2** | **Arithmetic** | **2** | **2** | **2** | **3** | **3** | **5** | **2** | **3** | **9** | **3** | **13** | **31** |
| **3** | **Mensuration** | **2** | **2** | **2** | **3** | **2** | **5** | **2** | **3** | **8** | **3** | **13** | **31** |
| **4** | **Algebra** | **2** | **2** | **2** | **4** | **3** | **7** | **1** | **2** | **8** | **3** | **15** | **36** |
| **5** | **Geometry** | **2** | **2** | **2** | **3** | **2** | **5** | **2** | **3** | **8** | **3** | **13** | **31** |
| **6** | **Statistics and probability** | **2** | **2** | **2** | **3** | **2** | **4** | **2** | **2** | **8** | **2** | **11** | **27** |
| **7** | **Trigonometry** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **1** | **4** | **1** | **4** | **10** |
| **Total** | | **12** | **12** | **12** | **18** | **14** | **30** | **11** | **15** | **49** | **16** | **75** | **180** |