



It is expected that students will develop the following competencies after studying Mathematics Part II syllabus in Standard IX

| Area | Topic | Competency statement |
|--------------------------------|--|---|
| 1. Geometry | 1.1 Euclidean Geometry 1.2 Parallel lines and pairs of angles 1.3 Theorems on angles and sides of a triangle. 1.4 Similar triangles 1.5 Circle 1.6 Geometric constructions 1.7 Quadrilateral | The students will be able to – <ul style="list-style-type: none">● write ‘what is given’ and ‘what is to be proved’ from the given statement.● write the proof of the given statements by using logical conclusions.● identify the pairs of angles made by a transversals of parallel lines.● understand the properties of pairs of angles and make use of them.● write ‘Given’ ‘To prove’ and ‘proof’ of the statements.● identify similar triangles and write the ratios of corresponding sides.● prove the properties of chord of circle using tests of congruence of triangles.● draw incircle and circumcircle.● construct triangles if different type of information is given.● write proofs of the properties of different types of quadrilaterals.● use ICT tools to verify the properties of triangle, quadrilateral and circle. |
| 2. Co-ordinate Geometry | 2.1 Basics of co-ordinate Geometry | <ul style="list-style-type: none">● explain the meaning of co-ordinates of a point in a plane.● describe a point by its co-ordinates.● use ICT tools to find the co-ordinates of a point. |
| 3. Mensuration | 3.1 Surface area and Volume | <ul style="list-style-type: none">● find the surface area and volume of a sphere and a cone. |
| 4. Trigonometry | 4.1 Introduction to trigonometry | <ul style="list-style-type: none">● tell the different trigonometric ratios using similar triangles and Pythagoras theorem and make use of it. |



Index

| Chapters | Pages |
|-------------------------------|--------------|
| 1. Basic Concepts in Geometry | 1 to 12 |
| 2. Parallel Lines | 13 to 23 |
| 3. Triangles | 24 to 50 |
| 4. Constructions of Triangles | 51 to 56 |
| 5. Quadrilaterals | 57 to 75 |
| 6. Circle | 76 to 87 |
| 7. Co-ordinate Geometry | 88 to 99 |
| 8. Trigonometry | 100 to 113 |
| 9. Surface Area and Volume | 114 to 123 |
| • Answers | 124 to 128 |