

MATHEMATICS SYLLABUS FORM 5 (PAPER 2A)

Text books being used:

Extended Mathematics for IGCSE, STP BOOK 3, STP BOOK 4

FIRST TERM

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| 1. Transformations. | EXTENDED MATHEMATICS FOR IGCSE Chapter: 9 |
| a. Lines of symmetry and rotational symmetry. | |
| b. Revision of types main of transformations: Translation, reflection, rotation and enlargement. | |
| c. Combined transformations: drawing and identification. | |
| 2. Statistics and Probability. | STP Book 3 Chapter 26. |
| a. Mode, Median, and Mean. | STP Book 4 Chapter 13. |
| b. Drawing of bar- charts, histograms and pie – charts. | EXTENDED MATHEMATICS FOR IGCSE Chapter: 10. |
| c. Finding the average and median of grouped and varied – width histograms. | |
| d. Cumulative frequency: mean and application. | |
| e. Upper and lower quartile values and inter-quartile range. | |
| f. Box plots. | |
| g. Miscellaneous problems on probability. | |
| 3. Variations. | STP Book 4 Chapter 19. |
| a. Direct and indirect variations. | EXTENDED MATHEMATICS FOR IGCSE Chapter 5 |
| b. Relation to graphs. | EXTENDED MATHEMATICS FOR IGCSE Chapter: 8 |
| c. Joint variations. | |
| d. Applications to experimental data. | |
| 4. Functions. | |
| a. Difference between a relation and a function. | |
| b. Inverse function and the drawing of graphs of these functions. | |
| c. Composite functions. | |
| 5. Ratios and proportions. | EXTENDED MATHEMATICS FOR IGCSE Chapter 1 |
| 6. Sine formula and Cosine formula. | EXTENDED MATHEMATICS FOR IGCSE Chapter: 6 |
| a. Application to given experimental data. | |
| b. Use of the above formulae in 3-D problems. | |
| c. The application of ratios in trigonometry without the use of calculators. | |
| 7. Bearings and three-dimensional problems. | EXTENDED MATHEMATICS FOR IGCSE Chapter 6. |
| a. Angle between a line and a plane. | EXTENDED MATHEMATICS FOR IGCSE Chapter 1. |
| b. Angle between planes. | |
| 8. Number systems. | |
| a. Rational and irrational numbers. | |
| b. Surds | |

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| <p>9. Quadratic Equations:
Solving of Quadratic Equations by trial and improvement method.
Solving of Simultaneous Quadratic Equations.</p> | <p>STP BK. 3
Parts of chapter 13.</p> |
| <p>10. Graphs.</p> <p>a. Sketching of line graphs of the form $y = mx$ and $Y = mx + c$.</p> <p>b. Sketching of graphs of the form $y = ax^2 + bx + c$ and of cubic functions.</p> <p>c. Revision of the plotting of graphs.</p> <p>d. Use of graphs in the solving of simultaneous and quadratic equations.</p> <p>e. Use of graphs for finding values from experimental data.</p> | <p>EXTENDED
MATHEMATICS FOR
IGCSE
Chapters: 7</p> |

SECOND TERM

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| <p>11. Interpreting Travel Graphs</p> <p>a. Gradient of distance /time and speed / time graphs.</p> <p>b. Calculating the distance from a velocity/time graph.</p> | <p>EXTENDED
MATHEMATICS FOR
IGCSE
Chapter: 7</p> |
| <p>12. Loci.</p> <p>a. Revision of basic geometrical constructions.</p> <p>b. Definition of loci.</p> <p>c. Standard loci in two and three dimensions.</p> <p>d. Use of intersecting loci</p> | <p>STP Book 3
Chapter 24.
EXTENDED
MATHEMATICS FOR
IGCSE
Chapter: 4.</p> |
| <p>13. Sequences.</p> <p>a. Patterns.</p> <p>b. Definition of a sequence.</p> <p>c. The n^{th} Term.</p> <p>d. Tessellations.</p> | <p>EXTENDED
MATHEMATICS FOR
IGCSE
Chapters: 1 parts of Chapter
11</p> |
| <p>14. Formal Geometry.</p> | <p>EXTENDED
MATHEMATICS FOR
IGCSE
Chapters: 4</p> |
| <p>15. Matters Financial
Stocks and Shares.</p> | |
| <p>16. Working out past Examinations Papers.</p> | <p>Sec. Exam. Papers.</p> |

Throughout the year revision will be made of topics covered in previous scholastic years, especially in Forms 3 and 4, which are not included in the above syllabus. For more details refer to SEC Mathematics Syllabus.

Students are expected to use ICT software to answer valid questions appropriate to the subject matter being taught. For more detail refer to the SEC Mathematics Syllabus.

Marks are going to be given for assessment purposes throughout the scholastic year. These marks are going to be based on the following:

- i. The student's ability to answer direct exploratory questions set IN CLASS and their ability to answer them within set time limit.**
- ii. MENTAL TESTS WORKED OUT IN CLASS.**
- iii. Computer material set on work sheets and worked out AT SCHOOL in the school computer laboratory.**
- iv. Revision homework set on questions similar to those set in Sec examinations.**