|  |  |
| --- | --- |
| **F Unit 1: Real-life (a) and algebraic linear graphs (b)** | **Year 10 Road Map** |
| In this unit you will learn about algebra. The aims are as follows:**LG1**: Knowledge **LG2**: Application **LG3**: SkillsAssessment Grades |
| **S/N** | **Learning Goals/Outcomes/Content** | Video Clips | R A G |  |  |
| 1 | Use input/output diagrams;  | 36 |  |  |  |
| 2 | Use axes and coordinates to read and interpret coordinates in all four quadrants in 2D;  | 8 |  |  |  |
| 3 | Find the coordinates of points identified by geometrical information in 2D (all four quadrants); | 113 |  |  |  |
| 4 | Find the coordinates of the midpoint of a line segment;  | 8, 133 |  |  |  |
| 5 | Draw, label and scale axes;  | A21b |  |  |  |
| 6 | Read values from straight-line graphs for real-life situations;  | A21b |  |  |  |
| 7 | Draw straight line graphs for real-life situations, including ready reckoner graphs, conversion graphs, fuel bills graphs, fixed charge and cost per unit;  | A21b |  |  |  |
| 8 | Draw distance–time graphs and velocity–time graphs;  | 143 |  |  |  |
| 9 | Work out time intervals for graph scales;  |  |  |  |  |
| 10 | Interpret distance–time graphs, and calculate: the speed of individual sections, total distance and total time;  | 143 |  |  |  |
| 11 | Interpret information presented in a range of linear and non-linear graphs;  |  |  |  |  |
| 12 | Interpret graphs with negative values on axes;  |  |  |  |  |
| 13 | Interpret gradient as the rate of change in distance–time and speed–time graphs, graphs of containers filling and emptying, and unit price graphs.  | 97 |  |  |  |
|  |
| 14 | Use function machines to find coordinates (i.e. given the input *x*, find the output *y*);  | 36 |  |  |  |
| 15 | Plot and draw graphs of *y* = *a*, *x* = *a*, *y* = *x* and *y* = –*x*; |  |  |  |  |
| 16 | Recognise straight-line graphs parallel to the axes;  |  |  |  |  |
| 17 | Recognise that equations of the form *y* = *mx* + *c* correspond to straight-line graphs in the coordinate plane;  | 96 |  |  |  |
| 18 | Plot and draw graphs of straight lines of the form *y* = *mx* + *c* using a table of values;  | 96 |  |  |  |
| 19 | Sketch a graph of a linear function, using the gradient and *y*-intercept;  | 159a |  |  |  |
| 20 | Identify and interpret gradient from an equation *y* = *mx* + *c*;  | A14c |  |  |  |
| 21 | Identify parallel lines from their equations;  | 159b |  |  |  |
| 22 | Plot and draw graphs of straight lines in the form *ax* + *by* = *c*; | 96 |  |  |  |
| 23 | Find the equation of a straight line from a graph;  | 159a |  |  |  |
| 24 | Find the equation of the line through one point with a given gradient;  | 159b |  |  |  |
| 25 | Find approximate solutions to a linear equation from a graph;  | 96 |  |  |  |
| 26 | Find the gradient of a straight line from real-life graphs too.  | 143 |  |  |  |

Student’s comments or questions